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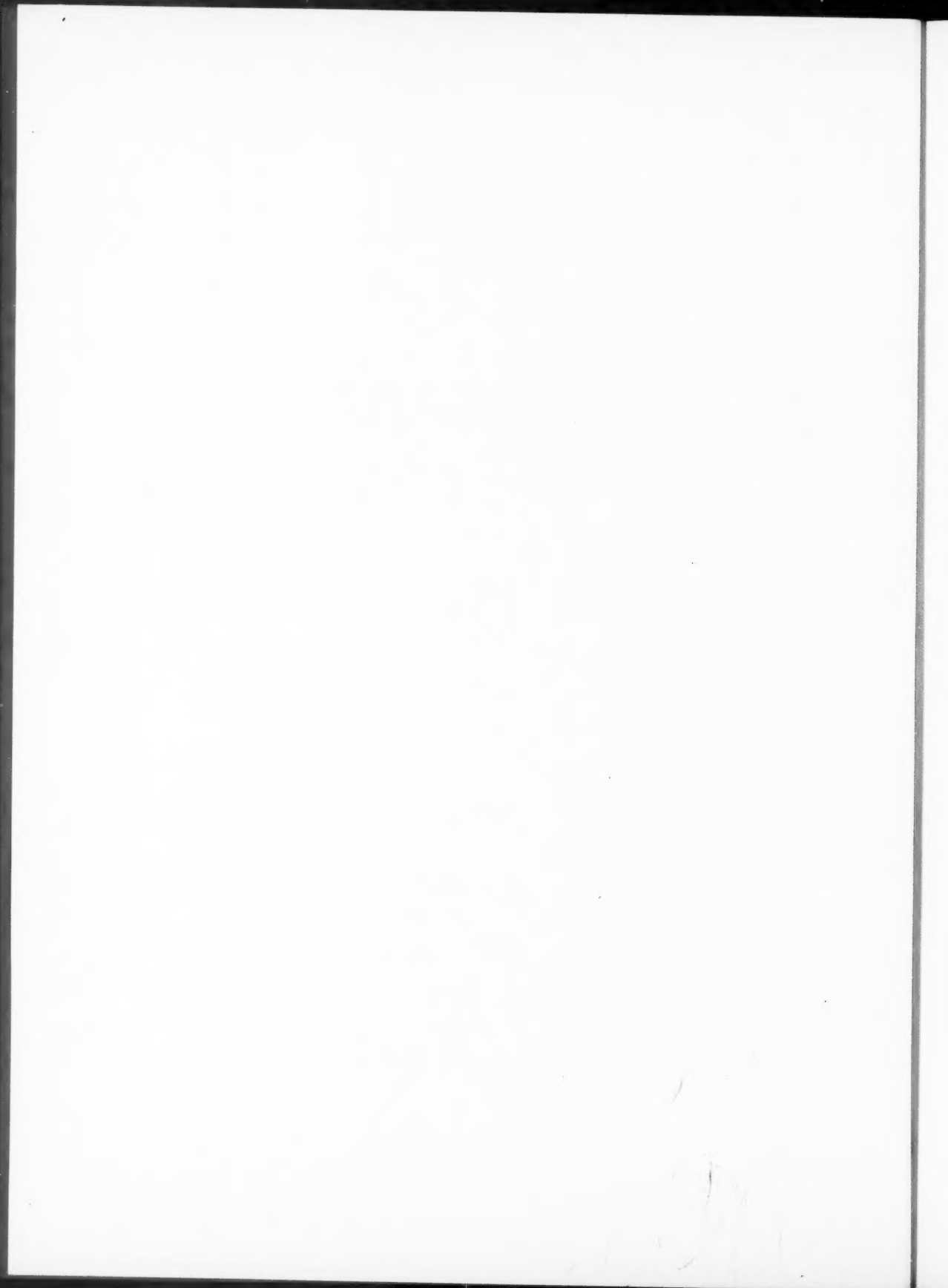
DEVELOPMENT DIGEST

A quarterly journal of excerpts, summaries, and reprints
of current materials on economic and social development

Patricia W. Blair, Editor; Pushpa Nand Schwartz, Associate Editor
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ON PLANNING AND PLANNERS

PLANNING WITHOUT FACTS

Wolfgang F. Stolper

[The pervasive lack of solid information on which to base plans imposes limitations on the kind of planning that should be undertaken, the way planning should proceed, and the amount of control the central government should try to exercise over detailed execution of plans and projects.]

What kind of education should a child have before he comes into the labor market? How precisely does land tenure work? Is it true that in Africa, in West Africa, in the specific area with which the planner is concerned, land-holding patterns are an impediment to development? How can the patterns be changed, if necessary, with a minimum of destruction and so as to get development on a positive path?

The basic problem the development economist faces is precisely this kind of ignorance, which goes far beyond a mere lack of statistics. Some of the information he can get only by experimentation on the spot. For other information he must turn to his fellow social scientists, for there is always the danger that a proposed measure will not produce the intended effect and may even be detrimental. But if the economist has a right to expect help from his fellow scholars, he has also a duty to learn from the situation. He should, for example, be expected to resist attempts to raise investment ratios when in fact there exists no known way of investing the funds productively.

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The Implications of Ignorance

In a general approach to development planning (and development theory), the lack of factual knowledge seems to have a number of important implications.

First, it is obvious that acquiring the necessary knowledge should have the highest priority. This itself presents difficulties. The accretion of knowledge has been a slow process of trial and error, of false starts and lucky guesses. The truth is obvious only in retrospect. Because the acquisition of the necessary knowledge takes time, it is extremely dangerous to pander to the idea that development can be a quick and painless process. C. P. Snow may be correct in suggesting that modern science and technology have made world-wide developments both possible and inevitable. At the same time, the scarcity of resources is real, and the obstacles to the application of science and technology in different environments are great. They are not merely social or psychological. Science and technology and the process of accretion of knowledge have their own built-in limitations to overcome as well as the obstacles put in the way of accretion by ignorance, social customs, and inertia.

Second, the development planner or the development theorist has to come to terms with his starting situation. The planners' decisions have to be made within a framework of known facts, legal and social surroundings, and executive abilities. It is irrelevant to assume that the development planner has a full array of alternatives before him and that he can choose the one which will get him most efficiently to a future goal that has been clearly defined. No such full array can exist. Just as only part of the present is known, only part of the future can be apparent. Obviously, there is nothing wrong with theorists' assuming that some social welfare function is known, but it is noteworthy that for theoretical purposes such a function need not be further defined. When it comes to executing policy, however, concrete definitions must be found. To make use of the theoretical insights of the Leontiefs, Tinbergens, Chakravartys, Lewises, and Chenerys, operational concepts have to be devised without a detailed knowledge of the distant future.

Third, it is essential to recognize the time it takes to test in reality the knowledge acquired or thought to be acquired. How often can the failure of so many large-scale agricultural projects, the high costs of most industrial projects, be traced to the impatience with the length of time it inevitably takes to accumulate the necessary knowledge? There is considerable evidence that time is not taken to accumulate data on rainfall, to experiment with the use of particular fertilizers in particular soils, the use of irrigation, the size of fields, the effects of transplanting, and so on. There is

evidence that too many projects are started without being thought through. There is evidence that projects that start small and feel their way by experiment grow faster, become bigger, and create more income and employment than projects that start too big from the beginning.

The Importance of Decentralization

Fourth, the very lack of detailed knowledge requires that decision-making be decentralized and delegated. It is often stated as a firm fact that only centralized political control and detailed central planning and execution can achieve the breakthrough needed for development. It is assumed that the facts are known. Absence of administrative and entrepreneurial talent is stated to be a reason for centralization and state control. Yet this is a questionable proposition. Even relatively advanced centralized economies have found it necessary to decentralize, to use the price mechanism more extensively, to give the man on the spot more power of decision.

The argument is not political or ideological but has to do with efficiency. A charismatic leader at the head of a dynamic state organization may impart to a country the energy absent from a lethargic private sector. But arousing latent talent is one thing, and substituting for it is another. It is a fallacy to suppose that government can take the place of entrepreneurship. It is people who run government, usually the same kind of people who can run anything else. They may differ in temperament and motivation but not in general training or ability. The government may start and own an enterprise. The case to be made is not one for free private enterprise but for the greater efficiency of decentralized execution, whether in a socialist state or not.

Because of lack of facts, only the man on the spot can make the best possible decision in detail. He knows the soil he has to deal with; he can adjust to the vagaries of the weather; he knows what problems of labor he runs into. Perhaps he lacks the necessary imagination, and fails. But that may be equally true of the man at the center, with the additional handicap that he does not know local circumstances. Planning, coordination, and general direction can come from the center; execution cannot.

There is, of course, another side to the coin. In advanced countries, the market mechanism provides an excellent signaling mechanism, holding the individual parts together, a mechanism which may not work perfectly but which works and which can be manipulated by monetary and fiscal policies and more direct interventions. It is quite true that such a well-developed market frequently does not yet exist in underdeveloped countries. But what are the realistic

alternatives? Surely not to discard what little guidance is available. Rather it is of prime importance to create such a market, to start an enterprise that will monetize increasing portions of the economy, to create the incentives that will draw additional resources, human and physical, into the economic nexus, incentives that work at all levels. Only by decentralization can low skills find their niche in the productive process. Central control is not likely to create a place for them. It is more likely to inhibit their emergence.

The lack of executive capacity and of knowledge in usable form requires that indirect methods of development be used to the utmost: incentives, policies, development of markets, of money markets, of tax policy, of training, and so forth. This can be done as much with government ownership as with private ownership, with individual property rights as with tribal and traditional property rights. The call for government to do things is frequently evidence of a serious lack of imagination and a serious misunderstanding of what an economy is and how it works. All of this is true even if government did not tend toward monopoly and restriction of production when expansion is what is required, subsidies when profits are called for. It is a waste of resources to use scarce administrative talent when less qualified people could do the job, to use specific means for a specific job when general policies could reach many more people and utilize more resources more effectively.

How Planning Must Proceed

Fifth and finally, the lack of facts imposes the manner in which development planning can proceed. The plan for a country cannot be a rigid blueprint. Although particular projects and policies lie at the heart of planning, they must be coordinated as far as possible. A plan ought to give an intellectual framework within which decisions can be made continuously. It ought to allow the repercussions of actions and policies to be evaluated as far as is necessary in practice.

For planning purposes, it would be impossible, and indeed dangerous, to draw up input-output tables and then proceed mechanically. The data do not exist, for one thing. Even a 20 x 20 table is hardly detailed enough to be operational. Therefore, what one hopes to do is to link projects to each other as far as possible, provide alternatives, resist ad hoc pricing, and make every attempt to trace repercussions until further secondary effects seem to be of little importance.

More important is a distrust of all aggregations. It is easy enough to produce optimistic projects and make things come out right. But the real function of an aggregative framework is to allow one to test the consistency of individual decisions. Only if individual

decisions can be linked to each other and to the aggregations are the aggregations a legitimate tool of planning.

A plan ought to allow for central direction and control and decentralized execution as the only manner in which new decisions can be evaluated, brought to the attention of the planners, and approved or disapproved. It ought, if possible, to be so arranged that it can be continuously revised upward, while downward revisions are avoided. It ought to be such that new facts can be brought to light and can be made to lead to new decisions. It ought at any moment to utilize all existing relevant information while minimizing dependence on facts that should be known but are not. It ought to make maximum use of existing resources while leading to continuously increased resource availability and an almost automatic upward revision of goals. In all of this, it ought to steer clear of meaningless aggregations and detailed prescription that have no empirical basis. The truth is that a wealth of statistics can hide a void of facts; having some statistics may at times be better than having none, but even this is not invariably so.

It goes without saying that one cannot make policy without politics and that politics quite naturally has priority. Economics and economic development are only means to an end. One can hardly get as enthusiastic about the free market or a central five-year plan as about a late Beethoven quartet or a Bach fugue. It may well be that economic development has not, in fact, the high priority in the thinking and aspirations of the people or even of the leaders of underdeveloped countries as these leaders pretend. It is reasonable that, in new countries, the creation of nationhood and the firm establishment of political stability should have and probably does have much higher priority. The economist can accept all that. But there is good and bad politics, politics that does and politics that does not achieve its ends. It is the author's thesis that good economics and good development can make a significant contribution to political ends; that bad economics will backfire; and that, under the circumstances found in most of the developing world, decentralization of economic decision-making is not merely politically desirable but is essential to the success of political aspirations.

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THE USES OF POLITICS

Fred D. Levy, Jr.

[A study of Venezuelan planning prompted this philosophical essay on the contribution of the political marketplace to effective economic planning. The technician-planner can improve the political process by providing objective information; by the same token, the political process itself can provide valuable information to the planners.]

Economists have been obsessed for too long with the evils of political manipulation and not sufficiently appreciative of the contributions that the political process can offer economic rationality.

Until recently, the literature of economic planning concerned itself primarily with the elaboration of techniques for formulating national development plans. We now see, however, that the task is not to devise the best plan, in some abstract sense, but rather the best implementable plan. This requires the cooperation—the willingness to implement—of many government agencies. It generally means giving the other agencies an important role in plan formulation as the price for obtaining a firm commitment to implement. Often, the planning agency must compromise its own position in the face of political necessities.

What implications does this dilution of the planning agency's decision-making power have for the rationality of the resulting decisions? Presumably, the planners are experts in analyzing national needs and framing development policies to meet those needs.

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Their technical overview enables them to see the problem more objectively and more completely than any other body. Are they not, therefore, the best qualified to make these decisions? Does not compromise mean a loss of rationality?

The fact of the matter is that economic planning cannot aspire to perfect rationality. It cannot provide a set of goals that is objectively more qualified than any other to represent the values of society. Nor is it obvious that it can consistently provide more rational policy within a given set of goals than any other method. We must inevitably fall far short of being able to predict the innumerable consequences of any one policy act, even over a relatively short period of time. We cannot even be sure that any unpredicted consequences will be unimportant; they may, indeed, have great significance. Consistency will not, in fact, be achieved except by improbable accident, and coordination will fail along with consistency.

It does not require a great deal of analysis to determine which sectors of the economy deserve priority for government action. They are quite visible to the naked eye. The elaboration of a consistent, comprehensive plan may even be detrimental to decision-making by dulling the decision-makers' sensitivity to react to unforeseen problems and imbalances. Moreover, channeling the skills of scarce social scientists and technicians to the time-consuming task of formulating comprehensive plans, even if they are highly effective, may be a grossly inefficient use of policy-making resources, in view of the ultimate need to devise and carry out specific projects and policies.

Planning theorists admit man's inability to comply fully with their general prescriptions. Nevertheless, the technique they recommend presupposes that the best course is to try to approach their ideal. The central planning agency is urged to the collection of great quantities of data in order to attempt a comprehensive analysis of the economy and its policy alternatives. By neglecting to discuss in any depth the practical problems of plan implementation, the planning theorists have given the impression that the perfection of the plan document is the purpose and essence of planning. Not only is this bad theory, but they have led many of their readers, eager to establish a planning apparatus, to underestimate the very real political and administrative problems involved, and, even more, the contribution that "politics" can make to the planning process.

The Contribution of the Political Marketplace

The political process is the primary source of information pertaining to the nature and relative intensities of social values.

Aggregation and resolution of the diverse viewpoints of society is the very essence of a democratic political process. If we make the not unreasonable assumption that citizens tend to exercise political pressures on each policy issue in proportion to the intensity of their feelings on that issue—that is, the degree to which they feel their own set of values affected—the politician can be visualized as a sort of social welfare machine, a weathervane, whose resultant attitude represents an "optimum" resolution or decision. The important point is that the political process, unlike the central planning approach (taken in the strict sense of planning theory), permits, and indeed forces, the consideration of a great number of goals or values of the diverse elements of the society.

Moreover, through the political process, men are able to agree on policies (often heartily) without prior, current, or even eventual agreement on goals. Goals are allowed to shift as new information is received, much of it generated by the political process itself. The very inconsistency or apparent lack of goals that is found in the political process may, in fact, produce a degree of accuracy in social evaluation far beyond the capacity of the deductive approach of the planning theorists.

One experience in Venezuela provides a good example. The original plans for Las Majaguas, an agricultural settlement project in central Venezuela, provided for large farm units, to be operated cooperatively but owned by the state, in the expectation that this form of land tenure would provide the most rapid rise in total production. Under heavy pressure from the Campesino Federation, the plans were later modified drastically to conform to the Venezuelan peasants' intense desire for independence and private ownership. And rightly so. Peasant dissatisfaction under the cooperative system would doubtless have rendered the production targets of the original plan unattainable.

Even at the stage of clarifying the costs and benefits of policy alternatives, the political process has useful information to offer. Central planners everywhere are faced with an extreme paucity of fundamental, technical data on which to base their estimates. Keeping an ear sensitively tuned to the pressures of various regional interest groups may be a highly accurate and inexpensive way of determining a priority list for schools, rural access roads, aqueducts, etc., compared with making a comprehensive inventory of needs and availabilities and a highly tenuous cost-benefit analysis on each element of the difference. A system which allows a high degree of interaction between partisan analyses, each attempting to marshal facts to support its case, may well produce decisions based on a higher level of relevant information and be more sensitive to the values of the society.

Of course, the distribution of political power, like that of economic power, is highly unequal in many countries. Some sectors of society may go virtually unrepresented in national politics. Information is far from perfect. Moreover, in most underdeveloped countries, the stock of specialized policy tools is woefully small, and the tools painfully blunt. It is natural that in such countries the few policy tools will come under centralized control, and that the political passions surrounding their use will be great. A certain amount of insulation from those passions may in fact become necessary if any solutions are to be found to the more critical problems.

But if centralized decision-making can be shown to be justified in those cases where the markets—economic and political—are unable to arrive at an efficient solution, or inevitable when decisions are crucial and their consequences irreversible, it can equally be shown that the markets have positive contributions to make in the many aspects of problems that fall beyond the capacities of the central decision-maker.

Just as planners have recognized the convenience, if not the necessity, of leaving much of the information-gathering and calculation involved in determining efficient resource allocation to the economic marketplace, they ought also to recognize the advantages of heeding the signals of the political mechanism. It may be that improvements in the functioning of the latter would do more to raise the general level and rationality of decision-making than any foreseeable refinements in the techniques of central planning.

Even where, to loosen the grip of powerful interest groups, the planning agency is given the power to impose independently a solution on behalf of society as a whole, the social welfare is likely to be better served by improving the operation of the political market—expanding suffrage and political education, strengthening an independent press, etc.

The Role of the Technician-Planner

Nothing that has been said is meant to imply that the technician-planner should be excluded from the decision-making process. Though his tools are incapable of defining rationality, they still have important contributions to make.

In the first place, the specialized information and analysis he provides enable the other participants in the process to develop a clearer idea of where their own interests lie, and how various policy alternatives are likely to affect them. Being thus faced with more and better data relevant to their own interests, they are given a more rational basis on which to conduct their activities.

By shifting the emphasis of discussion to the "national interest," the planner helps illuminate the broad range of common interests in social goals which otherwise might be obscured by ideological difference and partisan debate. Industrialists, for example, can be shown how price and wage policies that improve their immediate profits may also curtail the expansion of their markets in the future. Trade union leaders can be brought to understand that higher wages for their members now may inhibit future expansion of employment opportunities. The introduction of long-range considerations into public discussion may thus offer grounds for compromise and further a sense of common cause. To the extent that the collaborative planning process creates a greater sense of national unity in the development enterprise, it may serve to mobilize greater effort in terms of labor productivity, investment rates, project preparation, etc.

The planner also serves to keep the discussion within the bounds of national resources. Faced with objective factual analysis, the other participants are forced to think in terms of opportunity costs, to be selective as to the needs to be satisfied and thrifty in the design of projects to satisfy them. By eliminating the clearly infeasible among the alternatives, the planner can at least help to narrow the range of possible decision outcomes.

The planning office, in sum, serves not as a replacement for the political process of public decision-making, but rather as an agent for improving that process by improving the information and incentives of the other participants. The latter, in turn, can provide valuable information enabling the planners to perform their function more usefully.

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THE USES OF PLANNING

John Friedmann

[Perhaps more important than the somewhat questionable ability of planning to generate a high growth rate are its "latent" functions—improving the political process, creating a "development mentality," reducing social conflict, and attracting external resources. These conclusions are also drawn from Venezuelan experience.]

Venezuela's experience with national planning can in many respects be called successful. Since its inception in 1959, the Central Office of Coordination and Planning (CORDIPLAN), has enjoyed growing prestige and must now be reckoned as a major force in the decisions of government. A series of important planning documents have appeared, the latest of which is the Plan de la Nación 1963-66, and targets as well as policies have been subjected to continuous review and revision. Understanding of the intricate process of economic transformation in Venezuela is now far superior to that existing before 1959. And this understanding has spread to wider and wider circles in both the government and the private sector. The quality of public discussion of economic questions has improved. The plan itself has become a major focus of public interest.

From being the exclusive function of a single agency, planning has spread to encompass all major decision points, with CORDIPLAN increasingly assuming the role of coordinator and mediator of conflicting interests. Above all, planning has succeeded

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in focusing attention on economic development as the principal project of government and, indeed, of the nation. Actions are no longer justified in the public view unless they contribute in some way to the development of the nation's capacities in the economic or cultural fields.

These are major accomplishments, widely acknowledged. Has it, in fact, led to a more rapid growth of the economy? Unfortunately, answers to this question must remain ambiguous. We do not know what economic performance would have been in the absence of planning. Furthermore, throughout the planning period, major targets for national product, unemployment, and sectoral performance have not been met. In view of the repeated failure to achieve economic targets, the rising prestige of CORDIPLAN as an institution, and of national planning in a more general sense, is something of a puzzle.

Authority

In part, planning succeeded because it could speak with the voice of authority. The director of national planning always had great personal prestige and enjoyed the close confidence of the president. From the very beginning, CORDIPLAN was housed in Miraflores, the heavily guarded presidential palace in Caracas. For an agency whose primary activity includes coordination, this seemed an anomalous location. But CORDIPLAN's authority is derived in large measure from its propinquity to the president himself, its geographic position at the very apex of the national power pyramid. CORDIPLAN partook of the president's authority and frequently spoke with his approval on controversial matters. Any petition or proposal that had a bearing on the economy was eventually sent to CORDIPLAN for review.

Self-restraint

CORDIPLAN's authority remained unimpaired partly because it wisely exercised restraint on its ambitions. The total national planning staff, including secretaries and messengers, at no time exceeded forty, and its annual budget was only the equivalent of about one million dollars.

There was no thought of creating an abstract planning system in which all parts would neatly mesh on flow charts to culminate in a national plan. On the contrary, personal relations were stressed, and a good deal of the coordination occurred in ad hoc or standing committees brought together by CORDIPLAN. The system was by no means perfect, and some ministries—agriculture, for example—have been unwilling to participate in coordinative efforts. A word from

the president, or the removal of a minister, might have brought results more quickly and virtually imposed coordination as a requirement upon all the ministries. But this line of action was wisely avoided.

Realism

CORDIPLAN tended to avoid discussions of principle and preferred to work within the context of realistic alternatives. Its search was for the "possible" Venezuela. Lengthy discussions of development objectives were avoided; the immediate needs, such as massive employment or industrial diversification, were sufficiently clear and understood. In the latest version of the four-year national plan, for instance, there is only the sketchiest mention of general goals. Always the planning text returns to a concrete setting, replete with data and analysis.

The plan itself is something like a drifting cloud. Its very appearance in a loose-leaf binding is ephemeral. But if policies, programs, and projects may be changed from year to year, if CORDIPLAN will lean over backwards to accommodate, say, business or farming interests in the plan, what is left of the central planning function? What is left, of course, is a process of quite responsible decision-making which has the benefit of a forward look and a comprehensive analysis of the economy's interdependent problems. Potential opponents have found themselves in a quandary, attacking an enemy that would recede at every charge. But this strategy was played from strength, not weakness. The substance was not sacrificed. It was the data that were resilient to doctrinal fumings.

Latent Functions of Planning

Most people, including many planners, tend to think of scientific analysis, which they regard as the hard core of planning practice, as a purely objective function. Scientific knowledge, objectivity, moral neutrality, functional rationality—all these terms enter into the public image of planning. They are part of its expected role performance, as is efficiency, in the sense of reduction of waste resulting from inappropriate and inadequately coordinated policies. Planners are meant to be concerned with the optimal pattern of resource allocation for given long-range purposes.

As we have seen, national planning in Venezuela was not unambiguously successful if judged by these standards. Other studies of planning have arrived at essentially similar conclusions. It would seem that the popular image of planning has only the most tenuous relation to reality.

But if so, how is one to explain the rising prestige of national planning in Venezuela? Planning must have made positive contributions to the social system other than those which may be subsumed under the concept of rationality.

Indeed, there are other functions of national planning, here called "latent" because they normally pass unmentioned. On balance, these latent functions may have been more important to the development of Venezuela as a modern democratic nation than the ability of planning to "generate" a sufficiently high rate of economic growth or a substantial reduction of unemployment.

Strengthening the presidency. National planning was of immense value to the president himself. He could rely on CORDIPLAN for confidential, independent, and expert advice on economic questions, advice that facilitated the shaping of consistent policies and overall coordination of government programs.

Even more important was the flexibility and freedom of action he gained by being able to deflect petitions and requests for special consideration to CORDIPLAN.

An example will clarify the point. A group of prominent physicians once approached the president with a proposal for constructing a vast cardiological institute in Caracas—a multistoried structure, the very latest equipment, the usual seat of empire. The physicians, who maintained close contact with the president's Democratic Action party, could not easily be refused. But they were told that, while the president himself was in sympathy with their request, a small formality required that the project first be reviewed by CORDIPLAN and its committee on public health. Since the concept of planning had been legitimated, there was little the physicians could do but take their request to CORDIPLAN. The outcome of the story is typical of many similar instances. It was found that only small adjustments were needed to include in a hospital project being considered for early construction in Caracas, a section devoted to cardiological research. The original proposal was thus drastically scaled down; the hospital project was approved by CORDIPLAN; the physicians got at least part of what they wanted; the president's political prestige remained unimpaired; and the nation as a whole had saved a significant amount in capital and foreign exchange.

This story points to yet another function of planning—that of finding the most expeditious, least-cost solution to unavoidable political commitments. Another instance may be briefly cited. For years, enormous government investments had poured into the construction of a new industrial city some sixty miles away from Ciudad Bolivar, the capital of Bolivar state. Ciudad Bolivar was now demanding "compensatory" attention. From a political standpoint, these

demands had to be met; the only question was how. CORDIPLAN supported a project for constructing a bridge across the Orinoco River that would link both Ciudad Bolivar and the new city of Santo Tome de Guayana with population centers to the north. This technically sound proposal offered a solution to the political problem that was defensible from a development standpoint.

Perhaps the most important contribution of planning, as far as the presidency is concerned, lies in the making of the national plan itself. The plan stands as a symbol of government intentions. If plan targets are fulfilled, the president can point with pride to the results; if they are not, he can use them to motivate more dedicated performance throughout the economy. He may demonstrate the government's concern for such problems as unemployment by underscoring intention rather than achievement, and counter criticism of government policies by reference to optimistic planning targets.

Improving the political process. It seems clear, at least on a priori grounds, that the information generated by CORDIPLAN must have had a disciplinary effect on political debate. No one else in the government was responsible for relating basic data on performance—total and actual growth rates, unemployment, balance of payments, etc.—to developmental policy in the perspective of systematic projections of the economy.

These projections clearly showed the limits of the possible. One could neither ignore nor arbitrarily reject them. The quantitative rigor of the econometric models discouraged, even if it did not eliminate, irresponsible rhetoric. It forced the protagonists to fall back on reasoned arguments and to think of incremental improvements in the plan itself, rather than of grandiose schemes that would fail to meet the critical tests of consistency.

Creating a development society. National planning has helped to create a "new mentality." Large segments of the public accept national development objectives as significant points of reference for individual and group action. There is a growing preference for technical-objective over ideological-doctrinal reasoning. Venezuela is becoming future-oriented and development-minded. Although this effect cannot be wholly attributed to the existence of national planning, the changes would probably have been far less striking without it. The existence of national planning meant that goals were presented as realistic opportunities set in the context of history rather than in some trans-historical utopia.

Reducing social conflict. Planning has come to serve as an instrument for reconciling competing interests into an image of the national interest. It appears to have prevented a polarization of social forces into ideologically extreme positions—a danger that had

been particularly acute in Venezuela—and to have laid the basis for gradual expansion of the middle class by active recruitment from lower social strata.

Mobilizing external resources. In recent years, the Alliance for Progress, the World Bank, and others have made the existence of national plans a virtual condition of external assistance. Resource mobilization was not a major reason for engaging in planning in Venezuela, but it contributed to its maintenance.

The Importance of Adaptability

This review of the latent functions of national planning in Venezuela—its hidden consequences for social structure and process—points to an important conclusion: the institutional form of national planning was essential to its popular success and contributed significantly to the stability of democratic government in the early 1960s.

This may be demonstrated by performing a simple mental experiment. We may ask what would have been the consequences of adopting a form of national planning that was more centralized, more authoritarian, more doctrinaire, more plan-oriented, more long-range, more exclusively "professional," and more class-bound. The answer is more or less self-evident. Few, if any, of the latent functions described would have been performed. And if planning had failed both in this and in its manifest role, the entire enterprise of a development society under democratic leadership would have been endangered.

National planning in Venezuela was not, however, instituted primarily for the latent functions it might perform. On the contrary, this set of consequences came about as the by-product of an activity which is widely regarded as an effective method for improving the rationality of economic decisions and enhancing the prospects of economic growth. But even though it was often hard to tell whether government decisions were more functionally rational with planning than they might have been without it, the prestige of planning rose. It did so, I have argued, because the other, latent consequences of planning helped sustain it. Thus, the relative success of planning in Venezuela can be seen as the result, not of functional rationality, but of rationality continually adapted to real circumstances.

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PLANNING IN IRAN: WAS IT WORTHWHILE?

J. Price Gittinger

[When a former agricultural adviser returned to Iran after four years, he found that the planning exercise in which he participated had had many, often unexpected, effects which, in sum, were more meaningful than the projections and proposals worked out in the Third Plan.]

It is often said that national economic plans are "not worth the paper they are written on," because the plans are not implemented, or else implementation bears little relation to what the plans call for. But the activity of planning may generate benefits which do not depend wholly on what becomes of the plan.

The potential effects of planning take two main forms: 1) "Program effects" have to do with the impact of planning on subsequent economic development activities carried out more or less in accord with the plan itself. 2) "Indirect effects" are more difficult to define but may be more important, especially during the early years of a country's planning experience. They include a bundle of human-resource improvements which lead to better policy-making—better recognition of development problems throughout the government, greater participation in policy-making by qualified technicians, and a spreading comprehension of the planning process throughout the society. Assessing indirect effects is tricky, since evidence is often contradictory and conclusions are unavoidably subjective.

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The case of Iranian agriculture under the current Third Plan (1962-68) indicates that limited "program" and important "indirect" effects resulted from the process of formulating that plan.

The sectoral plan for agriculture called for a growth in output averaging 4.1 percent per year, to be accomplished primarily by marked acceleration of production and productivity on peasant farms. By the time the plan was ready, more than 100 agriculture agency officials had participated in formalized committee sessions with the central planning group, and many more had contributed to plan preparation within their own organizations. A major weakness, however, was that there was little field consultation, either with provincial officials or farmer groups and agricultural businesses. Furthermore, almost as soon as the plan was ready it came under sharp and often successful attack from the Ministry of Finance and others who represented the growing powers of the Plan Organization.

In agriculture, a drastic policy change took place. By the spring of 1962, the government had embarked on an extensive land redistribution program which the planners had judged politically unlikely and which, in any event, they felt they would be unable to influence substantially. The entire ministry field staff was transferred to land reform and the emphasis of the agricultural credit program was shifted to support the new peasant owners. The whole thrust of policy changed from one of accelerating production growth to one of increasing welfare through land reform. Luckily, the country has experienced no serious food production shortfalls, even though the agriculture plan is being just partially implemented.

Program Effects

The program effects of the third plan on subsequent agricultural policy, while much less than the planners had hoped, are nonetheless real and worthwhile.

Receptivity to small-scale irrigation schemes. The plan called for a change in emphasis in irrigation away from large dams and their associated works to smaller systems and groundwater development. No funds were allocated for major new construction, although ongoing construction was, of course, to be completed. Plan or no plan, however, enthusiasm for large systems continues. Construction has already begun on a dam across the Aras River on the Azerbaijan border, being built jointly with the Soviet Union. New dams are being investigated in Azerbaijan in the north and Fars in the south, as key elements in irrigation schemes to settle nomadic tribes.

One groundwater program illustrates the practical difficulties of realistic planning. The plan provides generous loans for new wells,

and a program was announced just as the land reform got under way. Not surprisingly, few owners were willing to borrow until the impact of the reform became clear. The program, which envisioned 2,000 wells in five years, generated only some 250 loans in its first four, although recently there has been an increase in applications.

But "even if we did not deflect the big dams one hundred percent," one agricultural administrator noted, "there was a real growth of interest in the new policy." After a long delay, a badly needed national groundwater survey, first recommended as a background study for plan formulation, is under way. In the first years of the plan, some ten groundwater projects have been undertaken, considerably more than in comparable earlier periods, if still short of the plan target. The most interesting is a deep well program west of Tehran being built with Israeli assistance, already so successful that a World Bank loan is being sought to extend it.

Groundwork for cooperative expansion. Program effects can also be exerted at one removed from the original expectation. For example, with the advent of the land reform, great importance was attached to cooperatives to supply both production and consumption items to new owners. By February 1966 there were already some 6,000 cooperatives, double the plan target, including 2,000 multi-purpose cooperatives, many times the number planned. Not unexpectedly, serious administrative problems have arisen.

Several of the key persons in the present cooperative administration were active in plan preparation. To a man, those interviewed agreed that the planning exercise contributed a great deal. For one thing, the common approach hammered out in planning meetings held over when the rapidly expanded cooperative program was mounted. Earlier understandings about emphasis on increased production and local control by members served in good stead. Drawing upon their background of extensive discussions about special credit facilities—rejected in the original, pre-land reform plan—the administrators were able quickly to make recommendations leading to establishment of the Central Organization for Cooperatives in the summer of 1963.

"Third Phase" land reform. The land reform has been carried out in two phases: the first, a redistribution phase; the second, a tenure regularization phase. Now the concern is that land reform may have serious repercussions on agricultural growth. The Minister of Agriculture has called for 20 new productivity-increase programs—happily termed "third phase" land reform—quite similar to those included in the third plan, which called for direct government efforts to increase availability of improved seed, fertilizer, farm machinery, and pumps. The "third phase...very much arises from the influence of the third plan frame," commented one respondent, a

ranking ministry official. Although it is too early to comment, the third phase land reform may yet turn out to be the most important program effect of the third plan exercise in agriculture.

Other agricultural programs. The problem of assessing program effects is illustrated by seed improvement and poultry production. "One of the most successful" plan programs, and one where the "plan has had a lot of influence," one Plan Organization official suggested, was seed improvement and multiplication. The plan called for a marked acceleration—but no real change in content—of a program already well under way. However, the targets have now been so scaled down as a result of budget cuts that one may legitimately ask whether the present seed improvement program is not merely a continuation, unaffected by the planning exercise, of an earlier activity.

In poultry and egg production, the plan program largely called for allowing the vigorous commercial production around urban areas to continue to expand; but no government program to support this growth was recommended. To the extent that the government has not acted, the plan effort has been successful; but this is a rather negative example of program effect.

Indirect Effects

The most important influences stemming from the third plan are found not in its program effects, however, but in its indirect effects. One respondent, a ranking economist, summed this neatly. "If we take the indirect influence of the plan document in the sense that the individuals who worked on it since have in fact been in charge of various programs, the concepts have caught the ears of many people." Even at the cabinet level, he continued, "I am amazed that concepts that today are commonplace were, when we began, as alien as could be. . . . When we discuss the inflationary impact of agricultural credit, we no longer have any diversions to discuss what inflation is." An economist close to the planning effort, but disappointed with the results, said, "I wouldn't say the effort of planning shouldn't have been made. By not doing it, possibly even the issues wouldn't be discussed, whereas they are now."

Planning-conscious administrators. The respondents all agreed that "the third plan effort spread the idea that there should be a plan, where before only a small group that had worked on a day-to-day basis with planning concepts was very concerned," as one put it. Another observed, "today, everyone at least pays lip service to planning, whereas when we began hardly anyone was convinced that planning had to be the basis for policy." One effect of the plan was

that "everyone is thinking much more concretely," so that, as a Ministry of Agriculture respondent noted, "programming is mentioned much more than five years ago," and for the first time people in the Ministry are "thinking about objectives."

The bitter power conflict that erupted in 1962 between the Plan Organization and the older ministries has certainly contributed to the spreading awareness of planning. Even the more conservative officials now feel that they had better have a plan—most any kind of plan—if they are to fight effectively for their budget allocations.

Yet, despite this new awareness, there lurks a deep skepticism among even the most sincere Iranians about whether planning can work in Iran. There was considerable delay in beginning serious work on the fourth plan. The absence of a large, competently staffed central planning group is disturbing. In a moment of pessimism, one respondent threw up his hands and said, "people don't really believe in a plan."

Ministerial planning units. The most striking change has been that planning initiative has increasingly gravitated to the ministries, away from the Plan Organization. To prepare the third plan, a great number of ad hoc committees of senior technicians were convened. These focused ministerial attention on the need to have stronger planning units within the ministry itself. In many cases, of course, the advantages of planning are recognized—better allocation of resources, superior integration, longer horizons, and the like. Yet even where these are not appreciated, ministries have noted well the power to control program formulation and execution which is to be gained from authority to frame the plan.

In the Ministry of Agriculture, a Deputy Minister for Planning and Budgeting has been appointed who has a staff of younger economists. Each department of the ministry has one or two persons who devote full time to planning and budgeting. A group of ministry committees has been established to prepare a critique of the third plan program, as a basis for work on the fourth plan. The new Ministry of Water and Power, established in 1964, has much improved the focus of water resources planning. Work has begun on a badly needed master water development plan, and the ministry has undertaken a training program to staff its Master Plan Bureau.

Emphasis on regional planning. There are indications that a real move toward effective regional planning may be afoot. A perceptive agricultural planning official remarked, "the third plan was prepared in Tehran looking at the country on a national basis. So then we had only a national plan, and that is one reason we had to modify it." The Ministry of Water and Power is consciously moving toward a regional concept in its proposal to establish water development authorities

modeled on that for the Dez River complex in southern Iran. The Ministry of Agriculture is appointing younger economists as ostan (province)-level planning and budget officers. They are to work with all local ministry officials to prepare ostan agricultural development programs.

Dispersal of planning staff. As the Plan Organization came under attack from other ministries at the beginning of the third plan, it lost a number of its able planning staff. Most were hired away by other government agencies, either to take on planning responsibilities or to become upper-level program administrators. "The third plan effort created a new group of younger men who are fighting for the concepts of the plan and planning," one respondent noted. Now these administrators, who spent their formative years in the Plan Organization, have been dispersed throughout the government. Generally younger economists, they have been instrumental in spreading a more realistic comprehension of planning and its role and in strengthening ministerial planning capability. Clearly, their departure seriously weakened the Plan Organization. However, given the broad reaction against the Plan Organization's power, even if they had remained, these men might not have been permitted by the other ministries to undertake the kind of aggressive planning leadership which had characterized the third plan effort.

Cost of Plan Preparation

The total cost of preparing the third plan, including technical assistance, has been estimated at roughly \$2.25 million. No separate estimate has been made of the cost for the agriculture plan alone. Technical assistance from the multinational Harvard Advisory Group of economists (financed by the Ford Foundation) amounted to between \$900,000 and \$1 million. Clearly, planning is expensive; it is not so clear whether the returns justified the expense in some kind of benefit-cost framework. At the least, however, it may be noted that few other technical assistance programs of similar cost in Iran can point to a better record of induced change, and many left virtually no trace at all.

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PLANS AND PLANNING IN AFRICA

Andrew M. Kamarck

[At least in an African context, the priority that governments and international aid agencies have given to preparation of national plans is misconceived. The priority belongs to building up proper economic policy-making machinery and using it effectively. The first requirement is staffing and organizing the government to improve day-to-day economic management.]

Africa is the continent of economic plans. Every country in Africa (except South Africa) has had at least one since World War II, and most have had several.

The preparation of economic plans began under the colonial regimes and under the stimulus of the colonial powers. Perhaps the one point in colonial history upon which everybody now agrees is that these development plans were defective: they were prepared by administrators with little or no economic background; coordination of the investments in various sectors was largely non-existent; there was no consistent development strategy. In short, the plans were "no more than lists of projects." Yet, it must be said (nostalgically) that these plans did have one virtue: they were usually carried out.

In the era of independent African countries, the highest rate of economic growth may well have been reached in the production of plans—increasingly more "comprehensive" and sophisticated plans. The Plan has become a symbol of independence, and a great deal of public attention is devoted to, and incantation of praises made over, the Plan document.

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The planning process is in many countries depressingly similar: An expert or team of experts arrives to prepare a plan. They set to work to construct or fill in a model of the economy, build up intersectoral input-output tables, construct a system of equations, and present an internally consistent over-all development plan complete with capital/output ratios; marginal savings coefficients; import, consumption, and production functions; investment, savings, and import gaps. A plan is worked out for the whole economy which lays down a growth rate, sectoral targets and allocations of funds, a balance-of-payments projection showing the need for foreign aid. The plan is turned over to the government; the visiting experts depart. At that point, the government may simply file the plan away on a shelf (as Upper Volta did, in one case); or it may adopt it with great fanfare and a year or so later request someone else to prepare another one (as happened in Sierra Leone and Senegal); or, as in most cases, it may continue to give lip service to the plan but otherwise pay little or no attention to it.

But when the government tries to carry out the plan, it may find it to be of not much help. In Guinea, for example, the Three-Year Development Plan 1960-63, devised by two foreign advisers, had as objectives: decolonization and economic independence by restructuring the economy; accelerated growth as far as possible within the framework of collective ownership of the means of production, with the state sector and cooperatives playing a dominant role in all domains; amelioration of the standard of living of the population; etc. The plan was unrealistic, its stated goals completely out of line with the administrative capacity of the government and the existing information on the resources and problems of Guinea. The government tried valiantly to carry out the plan, however; with the help of substantial foreign aid, it got investment to well over 20 percent of the gross national product (GNP). But the GNP grew more slowly than the population, so that the per-capita standard of living went down; foreign aid and voluntary domestic savings were insufficient to finance the investments, so the central bank had to print money, resulting in a rise in prices and a discouragement to export; export earnings (outside of the foreign-owned mines) went down.

On the other hand, the plans in Kenya and the Sudan (and, in North Africa, Tunisia) have certainly been of help—perhaps, to greater or lesser degree, in other countries as well. But over all, an objective observer must conclude that for most of Africa the plans have so far made little or no contribution to economic development.

I would venture to say that a general consensus on planning has arisen among most economists who have had extensive experience in development planning. What matters most, they all say, is not whether a plan is well coordinated or internally consistent, although

this is desirable, but whether it is based on good economic judgment and reasoning. A plan should be a focus, not a substitute, for decision-making.

In fact, an economic plan is nowhere near as important as the process by which a government makes economic and financial decisions. It is much better to have a good planning process in this sense than to have a good plan.

The pressure that international aid agencies have exerted on governments to prepare national plans and the priority that the governments have given these plans are, then, misapplied. The priority belongs to building up a proper economic policy-making machinery and using it effectively. It is really useless, for example, to produce a plan for a nation that has not yet succeeded in preparing and administering a proper government budget—as is true of one African country now launched on its Second Five-Year Plan.

The Misuse of Economists

Perhaps one of the biggest wastes in developing countries is in the way economists are used. It is not at all unusual to find the scarce economic talent available segregated in a planning office, working on a sophisticated macro-economic model, while policy decisions that are shaping the economic future of the country are made without the benefit of economic analysis or advice. What makes the whole matter worse is that the model and plan being constructed often bear little relation to reality. This is not a defect peculiar to Africa. If the time and effort spent on such unrealistic exercises were devoted to improving basic statistical and economic information, economic development in Africa would be speeded up.

In other words, an African government would be well advised to use its own and any available foreign economists as advisers in the Prime Minister's or President's office and the principal economic ministries, and in strengthening the statistical services—before it turns to the problem of building ultra-refined econometric models.

What is required is an economist who understands how the economy really works in the African context and what broad institutional forces affect it. Unfortunately, in today's scientific environment, governments too often believe that an economist-mathematician, if sufficiently incomprehensible, is the best planner. Plans are regarded as "magic"—pointed to with pride, expected to result in growth, but not regarded as a guide to action.

Aside from the misuse of economists, the planning process should be realistic in regard to what is administratively feasible in the country concerned. As Edward S. Mason, of Harvard, has said:

A due regard for these considerations would limit the size of the public investment sector in a development program to dimensions capable of effective administration; it would counsel against the imposition of controls whose implementation lies outside the competence of existing public services; it would emphasize the importance of training programs and of necessary changes in government procedures.

In addition, planners all too often spend their time on the aggregates and never get to the sectors or projects. For development to occur, concrete investment plans for individual projects must have been prepared—investigating technical feasibilities, computing the costs and benefits, and dealing with problems of administration and management. It does no good to be told that investment of "x" amount is necessary on roads. What roads, going from where to where, what quality, costing how much, saving how much in road-user costs and conferring how much in development benefits?

The tendency to administer the economy by directive has been inherited by the independent African governments, and it is reinforced by an easy perversion of "comprehensive" planning, which is always believed more desirable than something that sounds as incomplete as "partial" planning. In any case, it does make sense to prepare plans for the public sector in terms of and within a framework of comprehensive estimates and forecasts for the structure and evolution of the entire economy; it also makes sense to include the policy plans and instruments the government intends to use to help, persuade, and induce the private sector to develop. But it is easy to go too far, especially among the African governments whose neo-colonialist tendencies to indulge in government by directive are strong, and to attempt also to plan the private sector in detail. This is not an ideological mistake, but simply a matter of ineffective development tactics. As we now know, bureaucratic planning can secure growth for a time but with such inefficiency and sacrifice that eventually they are insupportable.

Where Macro-economics Fails

For the African countries to achieve a satisfactory rate of growth will not be easy. It is much more difficult than in developed countries, where growth may be stimulated or induced by manipulating the macro-economic variables—increasing the rate of investment by appropriate tax measures, or increasing total gross national expenditure by a budgetary deficit, or shifting the relationship between the

domestic cost-price structure and the international one by changing exchange rates, etc. One is able to rely on the law of large numbers and, therefore, on the statistical equations that describe economic behavior and the relationships in the economy. But to use this approach in Africa, and to use it as the main analytical policy guide, leads to meaningless and irrelevant conclusions.

Successful development in Africa will consist in large part of discontinuities—not of even movement along a curve but of kinks in the curve, jumps from one production function to another. It will proceed not so much in the form of small increases in industrial output, for example, but of a whole new industry getting started, or a new mineral resource suddenly becoming economic. Even in agriculture, where progress is more likely to be slow, jumps will occur—when the answer is found to a plant pest or a new hybrid is developed. (In Ghana, cocoa production, after remaining stable for a quarter of a century, shot up by 50-70 percent in the early 1960s.)

Macro-economic models imported from the developed world also suffer from another defect as far as Africa is concerned: they emphasize investment. Obviously, investment is important and necessary but often a greater contribution to development can be made by governmental economic policies. In Ethiopia, for example, reform of the feudal land-tenure system, which would give farmers the incentives to improve agricultural practices, would increase the national income more rapidly than the various power and road projects, etc., now under way—even though these latter may be economically justifiable. The very important role of the government in African economies notwithstanding, most economic activities take place outside the public sector. Economic growth in Africa can to some extent be measured by the shrinkage of the public sector's importance as agricultural, industrial, and mineral production grows. It is, therefore, of prime importance for governments to maintain policies that encourage private investment. It helps greatly, too, if a government provides the environment for growth: honest and efficient housekeeping of its own affairs and finances, political and legal security for private investors and producers, etc.

Macro-economic models often rest on the rather questionable assumption that capital/output ratios (or capital coefficients) or the technical coefficients of an input-output table remain stable in a developing economy. But much of the problem of development is precisely to increase the output per unit of capital per worker. The model will be even more questionable if the parameters are often not even taken from the economy in question but imported from other quite different ones. (Again, this does not mean they are not useful rule-of-thumb checks; but to rely on them is dangerous.) A more relevant model for African economies would emphasize not capital/output ratio but a coefficient that measured the effort made to raise

the general level of skills and broaden the average African's horizons in relation to output—including recurrent government expenditures on education, extension services, radio, libraries, and some part of the political party expenditures, etc.

Another danger of building economic plans in a developing country mainly on macro-economic models is that it has an anti-economic effect in the real sense of the word "economics." It ignores or does not emphasize to governments that it is most important to make the most efficient possible use of scarce resources. The implication of a macro-economic approach is that any investment will produce output, whereas what really matters to a development plan is that some investment will have a much higher yield than others—that some, indeed, may have a negative yield. The main problem is to find and take advantage of high-yield opportunities, not to ensure that all input requirements in the model have been accounted for and that there is an exact matching of domestic resources and requirements and of foreign exchange requirements and capabilities.

Lastly, it should be emphasized that, in Africa, non-economic factors are at least as important as purely economic ones in the achievement of economic development. Yet the more "advanced" and rigorous a mathematical model is, the less it is likely to take into account the non-economic factors. Planning which excludes such factors or throws them into a simple variable is simply not relevant, for economic development in Africa depends on the transformation of a society, and this must always be kept fully in mind.

What Reforms are Needed

In conclusion, then, the first importance is in staffing and organizing the government to improve day-to-day economic management of the government and the economy. Any plan for development should flow out of and be based on this work, with the following points firmly adhered to:

1. The planners—with a thorough understanding of the economy's resources and problems, including the main institutional, sociological, anthropological, and political factors involved—should study the impediments and opportunities for growth, sector by sector, and the international market possibilities.
2. Inventory should be made of the costs and benefits of public-sector investment projects already under way, and as much information as possible should be gathered on private investment under way or planned.

3. A rough forecast of how the economy will grow without further action should be prepared.
4. A policy program should be prepared of recommendations for action required to stimulate a faster rate of growth, sector by sector and over-all. Where possible, the costs and yields of each should be calculated.
5. Based on a rough financial forecast, which should include the fiscal impact of the plan and be governed by an estimate of administrative capacity (and, where applicable, the constraints of construction or contracting capacity) and by a realistic growth assumption, a public-sector program should be prepared. The projects in it would not need to be fully worked out at first, but one should have a rough idea of their costs and benefits. The program should include projects and programs affecting the private sector (e.g., provision of capital to industrial or agricultural development financing agencies, industrial estates) but not the projects of the private sector. A check should then be made of the private sector, where appropriate, to see how its plans would be modified by the proposed public-sector policies. The program would then be reworked to be made internally consistent.
6. The decision in each sector to accept projects should be made on the basis of a partial equilibrium model. That is to say, it should be based on a calculation of the costs, forecasts of demand and prices (in the light of a realistic forecast of GNP growth), and calculation of yield. The latter would be the determining factor. No attempt should be made to screen projects on the basis of capital/output ratio, input-output matrixes, or any other kind of general equilibrium model.
7. The resulting economic plan should be regarded as a working plan, a stage in a process and not a blueprint. It should be reviewed constantly and revised periodically.

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FUTURE OF THE PLANNING COMMISSION

Arthagnani

["Dr. D. R. Gadgil, the new head of the Planning Commission, has indicated that India may abandon not only her current five-year plan but also the device of five-year planning itself. He said in an interview that he intended to promote a re-examination of its basic aims and methods to rescue the reputation of Indian planning, which has been badly damaged at home and abroad by the failures of the Third and Fourth Plans. . . . The ambitious Fourth Plan, in fact, is still in its draft form although the five-year period it covers is nearly one-third over. Most analysts agree that it had become hopelessly irrelevant." The New York Times, September 17, 1967.]

The decline of planning has to be traced mainly to the unwieldy, unplanned evolution of the Planning Commission. In many respects, the original conception of the Planning Commission, its organisation and functions, was on right lines. As originally conceived, the Planning Commission was expected to be a small, elite body which was to be concerned with problems of broad structural changes in the economy. To provide for the necessary flexibility (and prevent undue interference from Parliament), the Commission was set up by a resolution of the Government. Moreover, its terms of reference were widely set to afford the necessary freedom of action.

Many factors can be held responsible for setting off the process which led to the decline of the Planning Commission. First, ministers were inducted as part-time members into the Commission. Pandit Nehru's presence had been essential, to lend prestige to the new body and to shield it against attacks by suspicious

"Arthagnani" is a pseudonym, which in Hindi means "Knowledgeable in the Art of Economics."

bureaucrats and also because of his own central interest in planning. But the other ministers, intended originally to bring coordination between the Government and the Commission, became mere ornamental appendages. If anything, their impact on the work of the Commission was deleterious, in that they tended to bring with them the negative bureaucratic attitudes of their respective ministries.

Secondly, at an early stage, the same individual became the common Economic Adviser to the Government and the Commission. However, these two positions represent quite different jobs. The Government needs an Adviser able to give quick advice on ad hoc policy decisions, while the Commission needed an Adviser who could take a longer view of the problems of the economy. The practice actually adopted meant that both the Government and Commission lacked full time and independent economic advice.

Thirdly, there arose the practice of the Planning Commission securing the services of Government personnel on deputation. The considerations which such personnel brought to their work were entirely inappropriate to their task: a short-term view of development, a propensity to safeguard their bureaucratic status, a view of their assignment to the Commission as only a transient stint with their loyalties and prospects still tied to their old jobs. Time spent at the Planning Commission was treated more as an exile than a well-earned refreshing sabbatical, and the loser in the arrangement was the Planning Commission.

Fourthly, the Planning Commission became an unwieldy, giant enterprise. Today it is so bloated as to be a duplicate bureaucracy. The sanctioned staff of the Commission increased from 244 in 1951-52 to 1,025 in 1963-64. What was more unfortunate was that this growth was entirely in the non-technical cadres, and the Planning Commission failed to staff its bureaus adequately with professional people, particularly those with technical background.

Finally, the Planning Commission, perhaps impatient of wielding power, started to participate in the day-to-day decision-making process of the Government, its representatives securing seats on Government committees, calling for files on administrative decisions, and sometimes getting involved in controversies over particular decisions of the Government—for instance, over whether to make a small car or not.

The main consequence of these developments was that the Planning Commission, instead of becoming a technical, expert body with a long-term vision, became a lobby for operating various pressures. It failed to build up its own technical cadres, and had to depend on data fed by the Government and interested private parties. It, therefore, failed to bring its own independent views to bear on

various topics and failed to acquire an identity of its own. Even the ideas embodied in the Second Plan—and carried over into the Third and Fourth plans, despite the changed circumstances—did not germinate within the Commission but had their roots outside it.

Overhauling Planning

What is needed is a thorough-going reform of the Planning Commission, and of planning. First, membership on the Commission should be drastically reduced (five portfolios seem ample) and should be awarded as recognition of technical competence. To give the Commission sufficient status, the Prime Minister should be the Chairman. Other ministers could be invited to participate when appropriate, but on an ad hoc basis.

The Commission's personnel should likewise be pruned. Each member would have under him a select body of no more than 100 competent, high-level officials with the appropriate technical, financial, and economic background. There should be no second professional level—the concept of hierarchical structure in professionally biased services tends to kill initiative—and only a reasonable number of clerical staff.

The form and content of planning are essentially political decisions and it should be for the Government, through the National Development Council, to lay down the broad lines—the rate of investment envisaged, the preferred rate of growth of income, and specific sectoral objectives like self-sufficiency in food grains or the desired expansion of employment, etc.

The Planning Commission's job would be to formulate proposals for individual sectors and subjects within these broad lines. It should have the aid of individuals co-opted as necessary from Government, the academic field, and private sector for, say, periods of three to six months. The Planning Commission should also be responsible for making and publishing an annual review of the plan, once adopted, and for consequent modifications of the annual plans.

Events have afforded an opportunity for complete rethinking on planning in India, and it should be possible for the new Government to take a fresh initiative.

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RURAL COOPERATIVES

ECONOMIC AND NON-ECONOMIC ROLES FOR COOPERATIVES

Rueben C. Buse and Peter Helmberger

[Construed as purely economic institutions, traditional cooperatives have serious limitations. They may, however, provide a setting in which the peasant can develop a spirit of independence and self-reliance. The local cooperative can also serve the government as an effective medium for education and extension.]

What can cooperatives or quasi-cooperatives contribute to economic development? Do they have any comparative advantage over private firms in improving the competitive structure of the marketing sector?

For all practical purposes, a cooperative is a business organization in which the people who supply its equity capital are also its customers or suppliers. It has the following characteristics: 1) the ownership and control must be vested in those who utilize its services; 2) all profit from the operation of the business is returned to the patrons on the basis of patronage rather than equity capital; and 3) the return of the owners' invested capital is limited.

The promotion of cooperatives is frequently suggested as an important government activity in economic development both as a corrective for monopolistic exploitation of the farmers and as a method whereby the farmers may obtain the economies of large-scale operation through joint enterprise. It is argued that cooperatives can enable farmers to process and market their products more economically, buy supplies and equipment in large quantities, obtain

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lower-cost credit and other services without sacrificing the incentives and social benefits of small farm units.

This may be a very optimistic argument. Organizing a group of farmers to form a cooperative and encouraging them to break their traditional ties with local merchants is not an easy task. Furthermore, given the small amount of cash that ordinarily passed through a peasant's hands, it is extremely difficult to imagine how many could be expected to purchase the capital shares necessary to start an economically viable cooperative. In Northeast Brazil, a team of U. S. and Brazilian technicians developed a number of peasant cooperatives; during a year of contacts, meetings, and training course, the peasant members were able to accumulate less than \$1 apiece.

Even if organizational problems have been solved, the lack of managerial ability of the cooperative manager is a serious handicap. In light of the social structure of traditional agricultural communities, the cooperative manager usually will be selected from among the community farm leaders. Ordinarily, this means that he will have little education or business management ability. Another difficulty cooperatives face in underdeveloped countries is competing with the established merchants. Inadequate transportation means that a given cooperative can serve only a relatively small area and therefore is fairly limited in its size. Moreover, in the beginning, the traditional farmer is rarely prepared to undertake the purchase and use of new inputs. This limits the cooperative to functioning as a consumer cooperative—not the farmers' most pressing need but often the only service that the cooperative can afford to initiate on any scale with limited capital. A consumer cooperative is competing directly with the local merchants; and it must have at least their tacit acceptance, for—with years of experience, lines of credit, larger capital bases, larger inventories, and, sometimes, questionable business practices—they could easily win a price war. All this makes it extremely difficult for a newly organized cooperative to survive, much less offer the farmer any economic advantage in joining and supporting it.

Potential Roles for Cooperatives

Construed as purely economic institutions, then, cooperatives appear to have serious limitations in fostering economic development. The same may not be true in the case of potential non-economic or quasi-economic roles, however.

The element of reform or revolt against the present system is basic to the formulation of cooperatives. Even in traditionally quiescent less developed countries, the majority of farmers seem to feel that

they are being exploited by existing firms. If artfully done, a cooperative can not only give vent to these feelings but can also provide a channel for the political aspirations of budding local leaders. Over time, it provides a small proving ground in which the peasant can develop a sense of participation in his own growth and development, while retaining some sense of security through group association. By giving the traditional farmer some experience in self-determination, it can also help him develop a spirit of independence and self-reliance, a characteristic that does not come naturally to people who have been reared in the traditionally all-embracing paternal or tribal system.

Within this setting, if the need for a cooperative actually exists, it can ultimately be a successful venture. Even if it serves no economic need and eventually withers away, the cooperative might well have played an important role in the self-improvement of the local peasant community, establishing a much broader and firmer base for the development of a true democracy.

The Need for Government Grants

The fact remains, however, that cooperatives have difficulty in accumulating sufficient capital and must often look to the government for help. Government assistance to local cooperatives is usually in the form of repayable loans. But there are serious limits to this type of government financing. The very reasons that made the local cooperative unable to acquire enough funds—too few members, too small a scale of operation, etc.—may keep it from succeeding even with a government loan. Thus, government loans may amount to outright subsidies to firms unable to stand the test of the marketplace.

Though there are disadvantages associated with government grants and direct assistance, their advantages could outweigh the disadvantages where cooperatives are viewed as local agents in an extension program. Using the small local cooperative for education and extension could be a practical way of reaching small farmers. Under the guidance of an elected manager and local field representatives, the local cooperative could thus serve as an effective medium for the introduction of new inputs, products, or services.

[Condensed from a paper presented at the Agricultural Development Council Seminar, University of Kentucky, Lexington, 26-30 April, 1967. See Agricultural Cooperatives and Markets, Kurt R. Anschel, et al. (eds.). New York: Praeger, forthcoming.]

A BUSINESS APPROACH TO COOPERATIVES

Allie C. Felder, Jr.

[The most promising strategy for improving the multitude of ineffective, often moribund, Indian cooperatives is "concentrate, accelerate, and weed out." Within this framework, the processing industry may prove to be the key to successful cooperative development, at least with regard to commercial crops.]

It seems to me imperative—and in this paper I speak for my professional Indian colleagues as well—to recognize that, whatever the difficulties, cooperatives in the developing countries are here to stay. For ideological and other reasons, governments will continue to promote them. In India, for example, cooperative agricultural credit expanded from less than 4 percent of total rural credit in 1956 to 20 percent in 1966, and as high as 30 percent in some states. In the field of processing, the dairy and sugar industries have been particularly successful, the latter progressing from practically nothing in 1950 to nearly a third of all sugar processed in India by 1965. The important question is not whether cooperatives should be promoted, but how their growth can be accelerated and their economic efficiency improved.

By and large, establishing elaborate cooperative systems for loans and extension services to farmers before the cooperatives have been given the means to remain viable has not worked. This has been true even where the government has given cooperatives special privileges (e. g., exclusive rights to distribute farm inputs such as chemical fertilizers, improved seed, etc.). We now know that it is the economic

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viability of cooperative institutions that must be emphasized. To this end, it is becoming clear to the professional leadership in India that cooperatives must rely primarily on selling products or services, to both members and non-members, to obtain the funds to meet their costs. As one group of Indian cooperative leaders has put it: "We are now beginning to consider the cooperatives more as a Firm."

Once a community and its leaders begin to appreciate the importance of any one cooperative as a business enterprise, it is less difficult to establish other types of cooperative activity in that area. It is becoming clear that short-term, intermediate, and developmental credit, the marketing of agricultural produce, and its processing are all intimately connected. The more integrated rural cooperative activity becomes, the more successful it is likely to be. With a processing industry, it becomes possible to assure farmers of a market for their produce; this, in turn, enables the cooperative to provide adequate credit to the farmers for production and development purposes, because repayment is assured. Through processing and marketing activity, furthermore, the cultivator-member can be protected against seasonal fluctuation of income and the gains that would otherwise go to a series of middlemen can be conserved.

This emphasis on processing has certain limitations, however. For many years to come, integrative cooperative operations in India may have to be confined to commercial crops such as sugar, cotton, peanuts, and in some cases, to foodgrains such as rice, which lend themselves to processing. It will be much more difficult to organize viable cooperatives in areas where basic foodgrains are produced. This is mainly because the proportion of total production that a farmer markets is relatively small (since he retains much of it for his own consumption), and because the trading and pricing of foodgrains is likely to be subject to more government controls, even rationing, to meet the needs of the cities. In the past, inconsistent and urban-oriented controls have meant both uncertainty and inadequate incentives for the farmer, whether or not he was a member of a coop.

Furthermore, because farms are small and widely dispersed and communications poor, processing of farm products must be undertaken on the smallest scale that is technically efficient. Once rural industrialization on the basis of cooperative processing of primary products is under way, other possibilities are likely to emerge, particularly in the manufacture of agricultural implements and machinery and in distribution of electrical energy.

Dangers to Cooperative Growth

There is no inherent danger in government subsidies and government participation in certain types of cooperative development activities as long as it is assured that government assistance will be withdrawn as soon as management know-how and capital have been accumulated within the cooperative. Few people, for example, criticize the loans the U. S. Farm Credit Administration gave to farmers, beginning in 1917, to help them organize Production Credit Associations (cooperatives) and associated institutions; these loans, \$167 million of which are still outstanding, eventually totalled \$638 million, with farmers themselves investing \$716 million. Today, farmers borrow at the rate of \$8 billion per year from this cooperative credit system which, initially, was heavily supervised and subsidized by the U. S. government.

In practice, the power of the Registrar of cooperatives is a more important problem in India than whether or not to accept subsidies. The Registrar's office should function as an enabling and legal enforcement agency. Too often, it merely impedes cooperative growth.

A still greater danger to the business operations of the cooperative can be members who do not participate or who lack loyalty and responsibility, or managers who do not know market possibilities. Such conditions offer the private trader or moneylender a ready-made invitation to exploit the farmers' ignorance and vitiate the potential for market reform inherent in the cooperative structure.

"Concentrate, Accelerate, and Weed Out"

A strategy for Indian cooperatives must be worked out in the context of indigenous conditions such as scarce management know-how and capital; a large number of existing, but often ineffective, agricultural credit cooperatives; low literacy rates; and other cultural and psychological problems. Under these circumstances, the most promising strategy can be summarized as "concentrate, accelerate, and weed out." Specifically, the following steps should be taken:

1. Initiate, in collaboration with the government, feasibility studies, benefit/cost analyses, and other surveys to determine the suitability of starting cooperative processing or assembly plants on an integrated marketing and credit basis.
2. Organize processing units, financing them with 30 percent cooperative contribution and 70 percent government loan, and retire government shares with earnings or savings from business operations as soon as possible. If necessary, use deputized government personnel for management and accept government-

approved boards, but have only token government representation on the board of directors.

3. Link credit (for purchase of key agricultural inputs) with marketing and processing, thereby assuring repayment of loans and increased production of major foodgrains.
4. Establish cells in each cooperative processing and manufacturing unit in order to train management cadres for new units.
5. Expand the processing activity to include extension activities for dissemination of improved input technology.
6. Concentrate educational and member training activities on the nucleus of cooperative membership which will promote the institution as a business organization.
7. Weed out non-viable credit and supply cooperatives by reorganization or amalgamation; if that fails, let them die.

The future of cooperatives as instruments of market reform in India is bright—with the exception mentioned earlier regarding marketing of foodgrains—provided:

1. Ideologically oriented cooperatives are replaced by sober economic institutional organizations emphasizing service and savings to the farmer-member, and sloganeering ("freeing the cultivator from the clutches of the moneylenders," "equitable distribution of wealth," etc.) is replaced by the realization that social objectives of the cooperatives can only be achieved after the more businesslike work is done.
2. It is assumed that cooperatives, along with others, have a role in the transfer of improved agricultural technology and should be equipped to perform this task effectively.
3. Cooperatives are seen as a significant, but not exclusive, part of an economy that includes both private-sector and public-sector activities. As agriculture and the general economy expand, there will be more competition, more private enterprise, and more public enterprise. The cooperatives must equip themselves to compete effectively in this context.

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ORGANIZING FACTOR MARKETS

Vernon W. Ruttan

[Distributing modern farm inputs effectively is extraordinarily difficult. Traditional market channels are inadequate. Supply cooperatives, government agencies, and private firms may all have contributions to make.]

The problem of organization and structure in factor markets—the market for inputs purchased from the non-farm sector—differs sharply from that of product market structure. In contrast to the latter, which have had a long history of evolution, the organization of factor markets to supply modern farm inputs to subsistence or peasant farmers is relatively new in most areas and is rudimentary, or even non-existent, in many others. Empirical research dealing with the economics of input markets is rare. In The Literature of Agricultural Planning [Washington: National Planning Association, 1966], Gittinger mentions only three or four references that can be interpreted as dealing with agricultural input markets, excepting the traditional factors of land, labor, and credit.

In the early stages of development, inputs such as fertilizer, insecticides, and others may be completely imported. Importation is typically subject to tariffs, exchange controls, import licensing, and other formal and informal barriers. Distribution may be under the control of a single firm, a government monopoly, a central cooperative organization, or, at most, a few firms. Even when local production is initiated, scale economies frequently dictate that total national or regional production will be organized by a single firm.

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There are a number of ways of organizing the logistical support for input markets: 1) through traditional private-sector institutions, 2) through cooperatives, 3) by public-sector agencies, and 4) through non-traditional private-sector institutions. The problem is to import or produce and distribute supplies of improved seeds, fertilizer, insecticides and rat poisons, machine parts, and other inputs in such a manner that they are physically available to farmers in the localities in which they are to be used with a reasonable degree of efficiency and timeliness.

Traditional Market Institutions

It seems incredible that, in the Philippines, where Coca-Cola can be purchased in almost every sari-sari store even in the most remote barrio, an agricultural chemical such as Cyano-gas (for rat poison) is only intermittently available in the municipal center near the nation's leading agricultural college. Casual observation suggests that the private sector, which functions remarkably well in the marketing of traditional farm commodities and consumer goods, performs very poorly in the distribution of agricultural production inputs to small-scale producers in Southeast Asia.

I do not pretend to know the reason for this. My own hypothesis is that the answer lies in the difficulty of transmitting technical knowledge through traditional marketing channels. These channels are typically effective in transmitting price information. Other information tends to get lost in the complex set of linkages which connect the commercial houses and fabricators in the port cities with the local sari-sari stores and pharmacies in the barrios. For agricultural supplies such as seed, fertilizer, insecticides, and herbicides—in which the new technical knowledge embodied in the input must frequently be associated with new knowledge by the cultivator—the deficiencies in the traditional marketing channels appear to be particularly serious. Mr. L. P. deGuzman, of Esso Fertilizers (Philippines) has illustrated the problem graphically; in a private letter to this author, he wrote: "Let me compare Coca-Cola and fertilizers in detail, since it is important to realize the marketing services required to sell the two products.

	1 Bottle <u>Coca-Cola</u>	1 Bag <u>Fertilizer</u>
1. Technical knowledge necessary to satisfy a need	None	A lot
2. Time lapse from use of product to satisfaction of need	Instant	4-12 months
3. Risk that desired result will not be attained after using product	None	A lot, depending on environment
4. Cost of smallest unit of product	\$.04	\$4.00
5. Regularity of sales over year	Regular	Very seasonal

Coca-Cola can be peddled by a 4-year-old boy and the only technical knowledge required is that he can count money. In contrast, fertilizers and technical inputs require that either the farmer knows his agronomy quite well, or that the seller knows something about farming."

Supply Cooperatives

It seems natural, when confronted by inadequacies in markets organized along traditional lines, to examine the potential of agricultural supply cooperatives or of integrated supply-product-credit cooperatives as devices for the marketing of agricultural supplies. Aside from successful examples of farm supply cooperatives in the United States and Western Europe, there is the example of the farmers associations in Taiwan, which have evolved into effective farm supply, marketing, credit, and extension institutions.

In contrast, I believe it is safe to assert that there is not, at the present time, a single economically viable cooperative system in the farm supply field in any other country of Southeast Asia, in spite of the very substantial assistance to cooperative development by both national governments and international aid agencies—although here and there some individual cooperatives have been successful. It is my hypothesis that the failure of the cooperative systems is due, in large part, to attempts to load relatively weak institutions with too many functions at too early a stage in their evolution.

A review of the Taiwan experience from this perspective is instructive. The farmers associations were instituted by the Japanese during the first decade of the colonial period and were primarily to test new varieties and production practices under farm conditions. The associations were reorganized several times—in 1908, 1927, 1937, and 1943. The responsibilities of the associations expanded gradually. Credit functions were not added until 1943, when the farmers associations were merged with the industrial credit associations that had existed since 1913 to provide credit to small industry but which had gradually extended their programs to rural areas. Throughout the Japanese period both the farmers associations and the Credit Corporation functioned primarily as an arm of the colonial government rather than as cooperatives in the classical sense.

There were further reorganizations under Chinese administration in 1946, 1949, and 1953, and it is only in the last decade or so that the associations have emerged as fully effective instruments of agricultural progress. They continue to contain a unique blend of centralized and decentralized decision-making and monopoly power in factor and product markets that must be rationalized on pragmatic grounds rather than on appeals to cooperative ideology.

Public-sector Distribution

In an attempt to compensate for the limitations of traditional private-sector factor marketing channels, governments often resort to direct distribution by public-sector research and extension agencies of such strategic technical inputs as seeds, breeding stock, pest-control chemicals and devices, and fertilizer. These programs try to combine in a single educational "package" both the distribution of these inputs and the information the cultivator needs to use them effectively.

A second objective of direct distribution programs is to use the availability of materials or services to create a "clientele" for new programs. Many farmers are more willing to sit still and undergo the pain of a little education if it involves a discount on the price of fertilizer or to cooperate in planting demonstration plots if this gives them quicker access to new crop varieties.

Examples of direct public distribution programs which represent an effective marketing channel for farm supplies are extremely rare. The conflict between the demands of economic viability and the use of subsidies to assure clientele loyalty typically results in the dissipation of agency budgets, thus limiting the coverage of the program to a relatively few farmers. Distribution costs tend to be exceptionally high in comparison with private-sector costs.

Public-sector distribution may be an effective method of introducing new technical inputs or services to localities where they have not been previously available. However, such efforts are likely to lead to widespread diffusion and continued use only if they are associated with market-development programs by strong cooperative or private-sector distributors.

New Private-sector Institutions

It is widely recognized that problems of membership education and managerial competence present major difficulties in establishing economically viable cooperatives in less developed countries. More obscure are the implications of the conflict between responsibilities to the family and to the membership of the cooperative in societies characterized by strong family systems. My impression is that this conflict, frequently seen in terms of corruption of cooperative officers, is a major hindrance to establishment of viable cooperative organizations in many areas of Southeast Asia.

There are, however, possibilities of organizing new private-sector institutions in which loyalty to family is consistent with

effective market development and performance. The history of efforts to build a cooperative credit system and a rural banking system in the Philippines is instructive. Both systems were established in the mid-1950s. By the early 1960s the cooperative system had exhausted its capital, the collection record had declined to less than 50 percent, and the system was rent by charges of political involvement and corruption. The rural banking system, in which the local banks were typically organized as family enterprises, has remained viable and has continued to expand at a carefully controlled rate. There have been only a few failures. A thorough analysis would probably rate its performance significantly better than that of the United States during the early years of country banking.

Other alternatives are being explored. The organization of vertically integrated supply and marketing systems have been successful in some areas, particularly when organized around export crops. Esso Philippines is experimenting with a direct fertilizer sales program; some 374 agro-service dealers were in operation by late 1966.

The basic point is that programs which focus on problems of equity in income distribution seem less appropriate to agricultural growth than programs which focus directly on problems of logistic and technical efficiency in the use of resources. The experience of presently developed countries is unlikely to provide a useful guide for the evolution of viable marketing institutions. Ideological considerations, centering on the desirability or undesirability of cooperatives are likely to be even less helpful. Instead, social organization and behavior must be carefully analyzed in order to design effective relationships between incentives and performance. Even under the most favorable circumstances, factor market institutions that are characterized by economic viability, technical and pricing efficiency, and equity will be a long time in coming.

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COOPERATIVES AND POLITICS IN TUNISIA

Douglas E. Ashford

[Hierarchical control of rural cooperatives, while it appeals to governments and technicians (for different reasons), may in time become a handicap. Community participation is essential to the goal of rural mobilization, which presumes productive, active, citizens.]

Development analysts of all varieties seem to agree that the most difficult task confronting the emergent nations in the next decade will be the mobilization of the rural population. The political nature of this problem should not be minimized, although it is easily ignored by both national leaders and foreign technicians, who tend to see it as an economic and technological issue.

Political forces have made the cooperative an attractive device for rural mobilization in Tunisia. Indeed, the critical role assigned to coops in Tunisian economic planning cannot be understood without taking into consideration the ruling Destourian Socialist Party. There is no doubt that Tunisia's enthusiasm for cooperatives is the result of their potential for enhancing its single-party system.

The Cooperative Structure

Tunisian planning envisions cooperatives as the products of carefully coordinated and planned action by the political and administrative hierarchy, rather than products of voluntary, cumulative efforts at the

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local level. The cooperative structure, headed by a Director of co-operation, is organized from the top down. It is run by the super-ministry of Planning and Finance, which controls the financial resources and reviews the technical studies that must be made before a cooperative can be established.

A Union Régionale de Coopératives (URC), controlled by the governor, is responsible for coordination of all coops in each of Tunisia's thirteen provinces. It supervises accounting and finances, provides a channel for subsidies and loans from the central government, and acts as the provincial policy-making group.

Beneath the governor, whose powers are often described as greater than those of a minister, are martialled all the forces of the single-party state. There is, first, a Director of the URC, invariably a party militant, often a member of the young, ambitious group of technicians who have arrived on the scene since independence. Beneath him is a Regional Commission for Agricultural Co-operation, where the delicate task of mobilizing the farmer, farm worker, and rural unemployed is focussed. The Commission includes the Director of the URC, two representatives each of the national organization of farmers, the Secretary of State for Planning, and—perhaps most important, though not stressed by Tunisian officials—the provincial Party hierarchy. With minor variations, the overlapping organization of coops, party, and administration at the provincial level coincides with similar structures at the local level.

Two pieces of legislation govern the conditions under which cooperatives may be organized. The overall impact of this legislation is to make certain that no cooperative will be started without careful study by the central ministry; it must fit within the URC structure and meet the requirements of the national development plan.

When Development and Politics Go Hand in Hand

There is a deceptive similarity between the demands of development and the power structure of the single-party state in the early stages of development. For example, in May 1964 the Tunisian government nationalized over 45,000 hectares of foreign-owned land. These farms, operated by 2,000 experienced French and Italian farmers, were among the richest and best developed in the country. But the system could no longer justify the political difficulties they created. The cooperative became the country's means of keeping these farms in production—meeting, for the time being at least, both political and developmental needs.

Again, the growing cooperative organization of the trade unions was becoming the potential foundation for effective opposition to the

regime. Labor organization among rural farm workers threatened to extend union-party rivalry, already evident in the cities, to the entire country. Furthermore, the unions had started and were operating some of the most profitable cooperatives in construction, fishing, and importing. In 1964, the decision was taken to organize professional party cells, which not only undercut the unions in the expanding modern sector of the economy, but also barred the way for union organization in the rural areas. Official policy thus not only coopted the resources of the union coops into the government's program, but also helped eliminate a major critic of the party.

The cooperative structure has clearly become a useful device to manage the mobilization of the countryside. Through it, the government has an instrument to reach every village and every farmer in Tunisia. By 1965, an estimated 12 percent of the active population in rural Tunisia had been enrolled in coops. There are no precise figures on the overlap of party and coop office-holding, but it is clear that little mobilization will take place without party clearance. Though leaders are aware of the need for general and active participation in coop management, priority is assigned to economic viability and political reliability.

When Development and Politics Diverge

At what point in the mobilization of rural resources will the assumption of automatic reconciliation of political and development demands no longer hold? The experience of the olive farmers in Sousse province in the Sahel, the central coastal plains, shows that reconciliation is not automatic even now. The Sahel has been a major source of support for the Destourian party since the thirties. But some 5 million of the 9 million trees in that region are estimated to be yielding too small a harvest to justify cultivation. In the interests of rapid development, a massive program of root and limb pruning, fertilization, and cultivation has begun, under the aegis of over 100 service coops encompassing some 35,000 farmers; about 2 percent of the worst trees will be removed each year. This transformation of rural life came as a shock to the relatively well off, middle-class farmers of the Sahel; in one town, M'Saken, there was a rebellion.

The experience of coops in modern nations has, of course, greatly disappointed those who saw them as an instrument for encouraging local participation and expression. The organizational problem is to reconcile the expert's view with the need to generate popular support and sympathy. For very different reasons, both the Western adviser and the political leader find precise organizational control desirable. In the single-party system, particularly as it has evolved in the African states committed to rapid development, there is a

great temptation to accept the more easily calculated (and therefore more "rational"?) judgments of experts where developmental programs involve political uncertainty. The Tunisian coop scheme illustrates how expertise can become a rationalization for hierarchical control and careful centralization.

The organizational costs, however, are quite explicit. Popular participation in the coop is simply postponed. This price is not excessive while the cooperative structure is small, but as the development effort produces a structure of the size anticipated in Tunisian planning, the political system will increasingly inhibit further development. The tendency to identify expertise with political judgment becomes less relevant the more complex society becomes; the diffusion of skills, resources, and institutions makes the calculation of policy alternatives increasingly more difficult. Thus, the hierarchical control established for Tunisia's rural mobilization may in time become a handicap rather than an advantage.

The fundamental political question is how, if at all, a single hierarchical structure can adjust to the diversification of labor and skill in the modernization of rural society. Modern society is not more productive simply because its members are individually more educated and more highly skilled, but also because their interaction is patterned by new organizational and group structures. Furthermore, once the farmer is mobilized within the political system, he places heavy demands on the society, dictated in part by his essential and high-risk profession. One need only survey the disproportionate political influence wielded by the farm bloc in any industrialized nation to see that he tends to protect his interests effectively. Thus, the transformation of the isolated, impoverished peasant into a more productive, active citizen may be the most difficult political hurdle encountered by governments in the emergent countries.

The Tunisian leaders are certainly not unaware of historical experience. Their single-party system must, therefore, be carefully observed to see how, in effect, the system itself can be modified as it succeeds in its developmental goals. The history of Tunisia since independence leads one to believe that the party has not lost its capacity to adapt to radical change and that it may one day remove the political constraints that have been placed on cooperatives.

[Adapted from "Organization of Cooperatives and the Structure of Power in Tunisia," The Journal of Developing Areas. Macomb (Ill.): Western Illinois University, Vol. I, No. 3, April 1967, pp. 317-332.]

THE WEAK AND THE STRONG

Daniel Thorner

[The success of rural cooperatives presupposes a modicum of social equality, political democracy, and economic viability among the villagers. And where they are absent, it is asking too much of cooperatives to expect them to create these—their own—preconditions.]

In theory, current Indian cooperative policy is based on two organizing principles—1) universal membership of all families in a village and 2) crop loans linked to production and marketing. In particular, the poorer sections of the village community—the labourers, artisans, cropsharers, and village servants—are meant to be brought into the cooperative fold. The richer sections are asked to show a sense of concern for the weaker sections, especially by depositing their surplus cash with the cooperatives. This policy has been no more successful in practice than have other cooperative policies espoused with enthusiasm at various times by various Indian governments. Some stubborn realities of Indian village life stand in the way.

The idea of having all the families in a village in the same cooperative might appear attractive in principle. It would seem to represent a social advance by ensuring the inclusion of the bottom half of the population which, because of its weak economic position, has generally been kept out of the cooperatives in the past. However, 100 percent village membership guarantees equally the enrollment of all the village traders, money-lenders, and landlords. And there is nothing in the record of cooperatives (or, indeed of any other Indian institution) to indicate that when the weak and the strong

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sit together in the same body, it is the interests of the weak which will prevail. The whole history of cooperation in India since 1904 points the other way.

This is not to say that in recent years there have been no important changes in village life. A great deal has happened. The great zamindars of the north and once-haughty mirasdars of the south have lost much of their grandeur. A good deal of land has changed hands. Universal suffrage has come. Compulsory labor (begar) has mostly gone. Nonetheless, not enough has happened to enable the mass of ordinary villagers to shake off the grip of a few dominant families.

The top village families are not great lords, but they are strong enough to get the small folk to do their bidding. And yet, these dominant "cultivators" are precisely the ones who have been securing for themselves the main benefits of the community projects and the vast new irrigation schemes. Where the panchayats function, these people are in the chairs. If labour is demanded in the name of the village, the ordinary people must go out in the hot sun; the men from the dominant families send money or lend the use of a tractor instead.

Firmly lodged in the chief positions of village power today, the dominant families stand ready to seize the lion's share of the vast programme of cooperative development. As the peasants say: "Jis ke pas jitna hai, utana use milta hai." (To him that hath much, much shall be given.) People like to think that a comprehensive, well-supported, well-thought-out governmental programme of setting up cooperatives will change the pattern of village power. The evidence suggests, rather, that the structure of village power has imposed, and will continue to impose, its own pattern on the cooperatives.

Evidence from Field Studies

As the author's field visits show, control of the cooperatives tends to rest in the hands of a few landholding families. Often they do some informal moneylending and sometimes carry on trading as well. In a striking number of cases, the members of these same families also serve as headmen in their villages, or hold other posts of local or district importance. The membership of the state legislatures and state ministries is drawn largely from their ranks.

For example, when I visited it, the leading figures of the multi-purpose cooperative at Saadhi, in Baroda District of Gujarat, were all landholders from the dominant local community, the Patels. They managed to get around the land reform, and some of them were giving out land on a 50-50 cropshare basis to the lesser folk of the village. Some of the leading figures in the cooperative appeared to be lending money informally on a private basis. The previous

head of the cooperative had gone on to become the chairman of the village panchayat, or council.

In Salem District, Madras, perhaps as celebrated as any in the state for work in cooperation, one family has dominated the movement for a generation. In 1959, one member of that family was simultaneously the president of no less than six cooperatives and the director of several others. The cooperative movement in the district seemed to be little more than an extension of his personality.

At a joint cultivation cooperative in Coimbatore District, Madras, only 3 out of 28 members actually went out and helped till the society's fields. In another joint cultivation society in North Arcot, three-quarters of the members were absentees, and none of the others actually worked in the fields. In both cases, the cooperatives served as a form of organization whereby the full members could receive aid from the state—loans, subsidies, priority in securing good seeds and scarce fertilizers, etc.—and yet get their work done for them by the employment of hired labourers.

Nauranga, in Kanpur District of Uttar Pradesh, is one of the best-known of the larger societies, covering many villages. During the author's visit, however, it appeared to be under the wing of the local landlord, the ex-zamindar, who used to hold Nauranga and several other villages; he had become a director of the Kanpur District Co-operative Federation. Peasant members of the new society asserted that the big people got preferential treatment from the cooperative, while applications from lesser folk were handled in dilatory fashion.

In many parts of the country, the role of government in the cooperatives is so great that the members consider the societies only a source from which to borrow government funds. In Sehore District, Madhya Pradesh, a Chairman and a Secretary told me that they fostered this impression because it helped to facilitate recoveries of loans. In Madras, the Tamil term for a loan from the cooperative society is sarkar kadan (government loan).

The Power of Moneylenders

To the extent, thus, that the cooperatives are more than mere paper organizations, they are likely to be instruments of the village strong. The cyclical history of cooperation warns us not to be too impressed with the sudden appearance of huge cooperative edifices.

As soon as we ask whether the cooperative structure will enable the peasants to get by without borrowing from the private money-lender, we are reminded of the truly formidable competitive power of the latter. Even when the peasant members can obtain crop loans

from the cooperative, they continue to rely on the moneylender for their most basic credit needs—namely, family living. Peasant families must spend on marriages, education, illnesses, funerals, journeys, pilgrimages, etc. Ceremonies and festivals are either the most solemn occasions of life or the most joyous. The peasantry can and will do without neither. The moneylenders are prepared to extend credit for any and all purposes, to do so on the spot, and to lend very substantial sums for long or even indefinite periods. At a high price—indeed, an oppressive one—the moneylender stands ready to meet all the credit requirements.

The plain fact is that the peasants must keep in the good books of the moneylender. He is indispensable; the services of the cooperatives are not. So long as this remains the case, the moneylender can find ways of getting at the cheap credit that the peasants obtain from the cooperative and turning it to his own advantage. For example, the moneylender often demands that the peasants market through him such produce as they sell. When pressed, the peasants sell through the cooperatives just enough to pay off their crop loans; the rest they continue to sell through the trader-moneylender.

The fact is that simply bringing the weaker families into the cooperatives does not automatically improve their basic economic position. They carry all their unsolved problems with them. To enroll such families wholesale into the cooperatives before putting their affairs on a better footing is to invite the danger that they will drag the societies down with them.

Experience has shown that cooperatives can enable peasant cultivators to help each other to improve their position. But the success of rural cooperatives presupposes a modicum of social equality, political democracy, and economic viability among the villagers. These preconditions are not yet present in village India.

What is happening is that the cooperatives are being asked to create their own preconditions, to reconstruct village society so that the ordinary peasants can make effective use of the cooperative method. This is too much to expect.

[Condensed from Agricultural Cooperatives in India. Bombay and London: Asia Publishing House, 1964, pp. 1-37.]

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EDUCATION AS INVESTMENT

EDUCATION FOR NATIONAL DEVELOPMENT

Oliver Popenoe

[Education can be functional and/or dysfunctional to economic or political development. Planning must attempt to maximize education's positive contribution by ensuring that education expansion does not outpace the ability of the economy to absorb its products.]

During the last five years education has become fashionable among developers—so fashionable that it runs the risk of being oversold. Despite a growing amount of research on the relationship between education and development, we still know very little that can clearly guide the development planner in making the "right" decisions.

Education as Investment

Until recently, virtually all Western economists, Adam Smith excepted, shied away from the obvious observation that people invest in themselves and that these investments play a large part in productivity. Men were regarded as the ends of economic activity, not—except in slavery—as capital goods, a form of wealth that can be augmented by investment.

A turning point came in December 1960, when Theodore W. Schultz, in his presidential address to the American Economic Association, called for a new look at human resources. He noted that the income of the United States had been rising at a much higher rate than the combined amount of the three factors of production: land, man-hours worked, and the stock

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of reproducible capital. How could this discrepancy be explained? Schultz suggested that it was due partly to economies of scale, but primarily to the large improvements in the quality of inputs that had occurred but that had been omitted from the input estimates.

Examining the investment made in human beings in the United States, Schultz found that the stock of education in the labor force rose $8\frac{1}{2}$ times between 1900 and 1956, while the stock of reproducible capital rose only $4\frac{1}{2}$ times. He concluded that between 36 and 70 percent of the hitherto unexplained rise in the earnings of labor was explained by returns to the additional education of the workers.

Another approach to measuring the contribution of education to productivity and development, called "the internal rate of return," involves calculating the rate of interest at which higher incomes obtained later in life would just compensate for the direct expenditure on education and the value of income forgone during the period of schooling. If this interest rate is higher than the interest rate on alternative investments, the investment in education is a superior one. Several different studies show internal rates of return for primary education of 20 percent or higher in the U. S. and Mexico; secondary education rates of 10-15 percent in the U. S., Hyderabad [India], and Mexico; and higher education rates of 11 percent in the U. S., 17 percent in Hyderabad, and 30 percent in Mexico. (By comparison, in India estimated rates of return on physical capital of 17 to 26 percent were obtained.) Returns on primary education are higher because costs are lower and little income is forgone.

Finally, there have been several attempts to correlate educational and economic indices. The most extensive and sophisticated has been by Frederick H. Harbison and Charles A. Myers of Princeton University in their book, Education, Manpower and Economic Growth. For 75 countries, they collected the best available data on economic development and stock of high level manpower, enrollment ratios for first, second, and third level education, orientation of higher education to science and technology or arts and humanities, and expenditures on education as a percent of national income. In all, 14 different indicators were tabulated. Analysis of their data led them to conclude that economic development correlated more strongly with higher education than with primary education or literacy, and from this they developed a composite index of human resource development. This index consists of the percentage of the age group in secondary school, plus the percentage in higher education multiplied by a weight of 5. The correlation between this composite index and gross national product per capita is very high: .888.

But education is expensive. The UNESCO-sponsored Conference of African States on the Development of Education in Africa, held in

1961, recommended a 20-year program of educational expansion. Against a 1960 educational pyramid with 40 percent of the age group in primary, 3 percent in secondary, and 0.2 percent in higher education, they called for 1980 levels of 100, 23, and 2.1 percent respectively. However, achieving this goal would require increasing the individual countries' investment in education from 3.9 percent of national income in 1961, to 8.6 percent in 1970, falling to 7 percent in 1980. In addition, it would require foreign aid at the rate of \$258 million in 1963, \$1,000 million in 1970, and \$386 million in 1980. And these estimates were optimistic regarding the expansion of national income during this period. By contrast, it should be noted that the United States spends only 4.6 percent of national income on education and the United Kingdom only 4.2 percent.

In making educational investment decisions, the relative costs of alternatives must be considered. Which will give the biggest payoff: primary, secondary, or higher education? liberal arts or technical education? The cost of educating an engineer or a scientist is three to four times that of educating a man in the humanities. This is one reason why so many developing countries turn out too few dear scientists and too many cheap lawyers.

Similarly, a vast expansion of primary education is relatively cheap and certainly popular, despite the fact that it is not generally the most efficient form of education for a poor country seeking economic development. But even primary education tends to be very expensive in developing countries because the teachers are overpaid relative to the rest of the population. Where education is a scarce resource, it receives a high price. The primary teacher is paid $1\frac{1}{2}$ times the per capita income in the U. S., 3 times in Jamaica, 5 times in Ghana, and 7 times the per capita income in Nigeria.

This might tempt one to say: well then, let's start at the top and work down. But all the universities in Africa started since World War II have been costing three to five times more per student than European ones. The most economic approach to higher education for an African country appears to be to get as many scholarships as possible for advanced study in Europe, the U. S., and the U. S. S. R., rather than organize one's own university. But this, just as much as restricting primary education, may be politically wholly unfeasible.

Producing Innovators and Social Change

Let us now move from an economic to a sociological look at education. Essentially education serves two important social purposes:

1. To convey the accumulated cultural heritage and to socialize the child into the ways of the society; and

2. To act as a mechanism for role allocation—for moving individuals into different kinds of jobs and different places in the social structure.

In a society changing rapidly from a traditional ascriptive one—in which jobs are filled on the basis of considerations of birth and status—to a modern one in which jobs are filled on the basis of individual achievement, both of these purposes become acutely important.

Today the school, particularly at the secondary level, often exists in isolation from its cultural surroundings and produces a product adapted neither to the traditional culture nor to the needs of a modern industrial society. There are many causes for this, rooted both in the subject matter offered and in the pedagogical methods.

Most educational systems in the new nations rely heavily on external examinations—for good reasons. It insures a common standard of education, usually one which, in its higher reaches, is related to standards in Europe. When not all children can be accommodated, it is the most equitable means of selection for further education. But rigid, examination-oriented educational systems are poor at producing flexible, innovative people who can adapt well to the confusions and opportunities of the modern world and who are a necessary ingredient of economic growth. Fortunately, developing countries are now beginning to break away from their former patterns of elitist, white-collar education, and looking for a type of education that is more appropriate to their present needs.

Social change may be influenced almost as much by who gets educated as by what kind of education he gets. When there is not enough education to go around, some kind of rationing is necessary. The politically potent demand for equity calls for spreading the supply as widely as possible. But efficiency calls for giving educational priority to those groups, areas, or individuals where given inputs will produce the largest response in attendance, educational achievement, and output to meet the growth needs of the nation.

Let us look at the case for efficiency. Economic development, like other social changes, occurs in nodes, in centers displaying high rates of change in interaction with other such centers. This calls for concentrating on the development of growth institutions and centers as models for the whole society, rather than a frontal attack on backwardness throughout the society. It means that in initial stages of development there will be widening educational and income differentials among strata and localities, although eventually these will narrow as the system becomes more highly developed.

The implication for education is that schools should be preferentially located in the centers where the community will make the most

effort to have them and that financing of secondary and higher education should rely heavily on loans and fees rather than stipends. Wide variations in standards should be accepted. As appreciation of the value of better schooling becomes more widespread, individuals and communities will make greater efforts to achieve it. An educational system flourishes to the extent that parents become convinced that their children will benefit tangibly from it. At present, in many developing nations, much of the primary education is almost totally wasted. Dropout rates run higher than 50 percent in some places and basic literacy barely gained is quickly lost.

One can criticize this approach by noting that it would result in the most education going to those in society who already get the most education because of their favored position. This is a proposition little likely to appeal to the socialistically oriented new nations. In any country, however, the combined effect of fees and parental influence mean that the privileged classes are able to take more advantage of education than the unprivileged ones. Indeed it may be argued that, unless these classes are rigidly excluded, educational stipends actually amount to a subsidizing of the rich by the poor.

Building a Viable Nation

Let us now look at the political side of education. Education is clearly an important factor in providing the specialized skills increasingly needed by the growing amount of differentiation in a society. Political capacity rests upon mass literacy, which makes a modern communications system possible, and upon the development of rational-secular attitudes. As for equality, education is clearly the major determinant.

While education is essential to political development, it can also hinder political development if not carefully planned. One of the major aims in the socially fragmented new nations is to build a sense of national unity in place of the existing ethnic and regional divisions. This frequently involves both a new ideology and a new language. The problem is one of balancing the need for homogeneity against other needs for heterogeneity. Tunisia has such a conflict in its desire to establish Arabic language education, as opposed to French, for the sake of cultural unity. But at no point has the introduction of a greater degree of instruction in Arabic been permitted at the risk of lowering standards. This dilemma illustrates how education which is economically functional, may be politically dysfunctional, and vice versa.

The same is true of social mobility—the source of some of the most severe political problems in the new nations. The well-known problem of the unemployed graduates in Egypt and India and the

unemployed school leavers in much of Africa is the gap between aspirations and achievement. Their unemployability stems from their unrealistic expectations. The greater the gap in expectations, the greater the risk that these people will be recruited into extremist political organizations. Ultimately an economy can use any number of educated persons. But over the short run, it is better to educate fewer students longer and to restrict the over-production of primary leavers to a level that will not create overwhelming social tensions. W. Arthur Lewis estimates that the limited absorptive capacity of most West African economies makes frustration inevitable if more than 50 percent of the children enter school.

Rapid educational change frequently creates a critical conflict between the generations. The political leadership of the various national revolutions has frequently been foreign-educated and is replaced by less well-educated leaders who speak only the local languages. Conversely, many of the good government jobs are initially filled with people who are poorly educated or very young, or both. As the next generation comes along, there are many more with higher education who see all the good jobs pre-empted for decades to come by those they consider less worthy. This can be a source of great political tension since it directly concerns so many of the relatively small elite.

The solution is partly one of expanding the number of good jobs available, particularly outside the government sector, and partly one of reducing the emphasis on education as the major criterion of elite status. An expansion of technically relevant education will produce a larger group of what is sometimes called "the new class"—people who have broken sufficiently from the traditional structure to assume a position in society not determined by birth but by training and ability. This group needs to become large enough to give up the illusion of trying to model its way of life on that of the European colonists or the small educated elite that preceded it. Eventually it will create a new social milieu with the values, aspirations, and standards of efficiency on which development depends.

In the early stages of development, teachers may represent the largest group of government employees and the largest group of educated persons in the nation. Because they are widely distributed and highly regarded in rural areas, they often play a large political role. A study of the legislatures of eight African countries showed that former teachers made up from 23 to 46 percent of the membership. However, with the introduction of mass education, the teachers' status declines as many younger people are educated to higher levels. The result can be politically dysfunctional, especially since teachers are in such a strategic position to influence their students and their rural communities.

I have tried to indicate in this article ways in which education can be functional or dysfunctional to economic or political development, or both at the same time. In order to maximize the positive contribution, a nation must be aware of these effects and must have a manpower plan which relates educational development to economic development. The essence of the problem is balance. The educational system must produce the trained people needed for economic development, but, conversely, investment in economic expansion must be planned so that large pools of unemployed educated are not allowed to persist.

If education can be said to be the single most important factor in development, it is because it is the most important determinant in creating human and social capacity. In many nations, the weakest links in development are the human ones. And for these links, the solder is education.

[Condensed from "The Importance of Education in National Development," International Development Review. Washington (D. C.): Society for International Development, Vol. VIII, No. 4, December 1966, pp. 8-14.]

A NOTE ON A. I. D. DISCUSSION PAPER NO. 15:

Human Resources Development Planning, by Kenneth C. Kehrer (Washington: A. I. D., March 1967). 44 pp. Mimeo.

This paper includes a more complete discussion of the three techniques noted by Mr. Popenoe for analyzing education as investment—Schultz's "residual," the "rate of return," and cross-country correlation. Mr. Kehrer also takes up the strengths and weaknesses of manpower projections and education models as guides for the planner. His paper is a clear, concise introduction to the burgeoning literature on the economics of education. With its emphasis on policy implications, the paper should prove helpful to planners and administrators, as well as to students. A fairly complete bibliography is appended.

A. I. D. discussion papers are available, gratis, from the Office of Program Coordination, Agency for International Development, Washington, D. C. Interested persons in developing countries should contact their local A. I. D. mission for help in obtaining copies.

AN OPTIMUM EDUCATIONAL MIX FOR GROWTH

Alexander L. Peaslee

[An historical analysis of the experience of economically successful countries suggests to this author that educational policy should emphasize, first, primary education, and then move on successively to secondary and university levels.]

Inter-country comparisons which seek to discover a correlation between educational attainment and economic development may have failed to produce significant results because the dynamics of growth were overlooked. Experience suggests that education precedes and accompanies economic growth. It suggests, furthermore, that emphasis first on primary education has been associated with economic growth more than has initial emphasis on secondary or higher education. Obviously, in the complexities of economic development, education is not the only factor. But the importance of primary education, particularly, has often been overlooked.

The author arrived at this hypothesis after studying the educational and economic growth of 37 countries with populations of more than one million in 1920 (smaller countries were eliminated to reduce exogenous factors). In 29 of these countries, when educational and economic growth rates are graphed and compared, periods emerge in which per capita real income has remained level while enrollment ratios at elementary, secondary, or higher levels were

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being greatly enlarged. (In the remaining 8 countries, it was not possible to isolate specific periods, either because economic growth was so steady that there were no plateaus or because data were incomplete.)

The data show that it is possible to enlarge enrollments quite rapidly. For example, the proportion of total population enrolled in primary schools in Venezuela went from 3.7 to 6.7 percent in 5 years, and to 10.2 percent in another 8 years. Russia went from 3.6 percent to 10.4 percent in 9 years. Puerto Rico moved from 6.0 to 11.5 percent in 6 years, and Chile from 5.0 to 10.6 percent in 4 years. At the secondary level, Spain went from .87 to 2.41 percent in 7 years; Norway from 1.36 to 2.65 in 3 years; Japan from .31 to 1.07 percent in 10 years; and France, from .98 to 2.04 percent in 4 years. At the level of higher education, we find Austria moving from .26 to .61 percent in 7 years; Israel from .13 to .64 percent in 11 years; Japan from .47 to .68 in 5 years; Puerto Rico from .78 to 1.07 in 2 years; and Venezuela from .09 to .25 percent in 7 years.

Education's Impact on Growth

As far as education's impact on economic growth is concerned, the historical record is suggestive. While other economic, behavioral, and political factors obviously operate, and while it is not possible to discount the influence of resource endowment, certain quantitative educational levels appear to be necessary for growth.

Primary education. For those countries for which there is "before and after" data, the record indicates that sustained economic growth began after the point at which 6 to 8 percent of the total population of the country was enrolled in primary schools. [See, for example, the countries listed in Table below.]

Of the 35 countries with the highest per capita gross domestic product in 1958, all but 6 had over 10 percent of their population in primary schools by 1920 or earlier. The others attained the 10 percent mark by 1938 (Greece, Mexico, U. S. S. R.) or 1948 (Israel, Venezuela) or had hovered around the 10 percent mark for decades (Uruguay). Put another way, the 39 countries that had reached "over 10 percent" primary enrollment by about 1948 were also the top 34 countries in per capita output in 1958. Four of the other five countries (Ceylon, Mexico, the Philippines, and Taiwan) led their neighbors in per capita output; the fifth, Korea, had not fully recovered from war devastation in 1958, but is now advancing. Of the more than 50 countries that had not reached 10 percent primary enrollment by 1948, only Colombia had attained per capita production of over \$300 by 1958, and Colombia passed the 10 percent mark in 1956.

ENROLLMENT PERCENTAGES OF TOTAL POPULATION AND APPROXIMATE
DATES OF INITIATION OF SUSTAINED ECONOMIC
GROWTH IN VARIOUS COUNTRIES

Country	Approximate Date of Initiation of Sustained Growth	Years After 10% Primary Enrollment Was Reached That Sustained Growth Began	Years After Given Percentage Primary Enrollment Was Reached That Sustained Growth Began	
			Enroll. Percent.	Years
Belgium	1850	+4	7.5	20
France	1835	-15	6	3
Greece	late 1930's	+10	7	15
	late 1940's	+20	7	25
Italy	1905	-7	7.4	19
Mexico	1940	-5	8	17
Puerto Rico	1940	+30	6	36
Russia	1934	+3	6.4	8
Spain	1950	+30	8*	40

* Very rough approximation of average attendance based on earlier attendance figures.

Secondary and higher education. Secondary enrollment ratios are not associated with economic growth until the 8 to 10 percent primary enrollment ratio has been attained. Then, with an average lag of 11.5 years, a pattern of secondary expansion and output increases appears. As time passes, this relationship becomes less close, and a better correlation appears between university enrollment ratios and subsequent economic growth. The pattern of economically successful countries has tended to be that approximately 2 percent of total population is in secondary schools before emphasis is shifted to the university level.

But, in the absence of widespread primary enrollment, emphasis on higher levels of education does not have the same effect. India, Pakistan, and Egypt, for example, achieved very impressive increases in secondary and higher enrollment ratios but little or no per capita economic growth by 1958.

If the Indians in 1958 had had the same ratio of enrollment that Mexico had in 1945 (roughly five years after Mexico began to show sustained growth), India would have had 2,464,000 students in secondary schools instead of 14,426,000 and only about 576,000 university students instead of 913,000. One could argue that India was devoting vast resources to educating a body of frustrated, potentially destructive students. If the expenditures on the excess secondary and higher education students (since the cost per student at those levels is much greater than in elementary schools) had been allocated instead to primary schools, Indian elementary enrollment

could have expanded to close to 10 percent, thereby providing a real opportunity, according to this hypothesis, to break through to development.

Causality: Educational Chicken or Economic Egg

It may be argued that increases in educational enrollment are simply a concomitant of economic growth; as a nation's per capita product increases, it has more to devote to education. But the key lesson to be drawn from the data outlined above is that expanded primary enrollments are associated with subsequent economic growth. The educational chicken appears to produce the economic egg.

It may thus be hypothesized that the "crust of custom" in traditional societies is not broken until a significant segment of the population has been introduced to a more systematic way of obtaining and assimilating information. In fact, we might speculate that the tighter the grip of tradition, the longer it takes to break the crust of custom. This may explain why France reacted more rapidly to enrollment expansion than did Spain: the eighteenth-century age of rationalism had left relatively little "crust" in nineteenth-century France, while the strongly traditional Spanish culture could not be transformed until well into the twentieth century.

Technical knowledge does not take root in a traditional society. Large-scale primary education brings a new, more systematically informed set of actors onto the economic stage. This break in the traditional way of doing things, reinforced by the information obtained in school, contributes to increased individual productivity. Among other things, the triggering effect of primary education may explain why traditional agriculture has been transformed in some countries and remains immovable in others. Furthermore, the expenditure of considerable funds on expanded educational facilities in itself gives a lift to a nation's economy.

A 25-year Educational Plan

It is obvious that variations in natural resources, capital formation, behavioral patterns, and a host of other factors would create local modifications in any model of optimum mix aimed at maximum growth. Nevertheless, the pattern of economically successful countries in the past offers some guidelines for allocation of resources for education.

For an optimum mix, a policy framework for expansion of enrollment in an underdeveloped country would begin with 10 years'

concentration on primary education, which hopefully would bring enrollment up from around 2 or 3 percent of total population to over 10 percent, or close to 50 percent of the 5-14 age bracket. Then, in another 5 years or so secondary enrollment could expand from about .5 percent to 2 percent, or roughly 25 percent of 15-19 year olds. In the final ten years, emphasis could be focused on expanding university enrollments from, say, .075 to .3 percent, or as much as 5 percent of the 20-24 age group. These appear to be realistic goals in terms of the experience of other countries. They are achievable if a country concentrates its resources and is aware of the economic benefits that can be derived. And if the economic results are as indicated earlier, this type of enrollment expansion would be most conducive to increases in real per capita income.

[Adapted from "Primary School Enrollments and Economic Growth, " Comparative Education Review. Kent (Ohio): Kent State University, Vol. XI, No. 1, February 1967, pp. 57-67, and from "Education's Role in Development, " an original article.]

THE EDUCATION INDUSTRY

Philip H. Coombs

[If the real educational battle is to be won, the leaders of various professions and disciplines must combine forces in a mutual creative effort to improve both the pedagogical and the cost efficiency of educational systems. Some guidelines are already evident.]

Though education is not an "industry" in the popular meaning, it is an "industry" in the sense that it employs costly resources to produce results of value; therefore it must be concerned with using its limited resources as efficiently and productively as possible, in the interest of giving as many people as possible the best education possible.

At this point in history, all educational systems face a crisis of efficiency and productivity, resulting from a growing "squeeze" between limited resources and rising unit costs. Greatly increased attention must therefore be given not only to mobilizing additional resources, but to making much more efficient and effective use of the resources already available.

Why Educational Costs Will Rise

The dilemma of rising costs threatens to undo the fondest hopes of educators. And yet there are several basic reasons why these costs will continue to rise. This is not to say that the particular causes of rising costs are either good or bad in their own right. It is simply to state objective facts.

Education is a "labour-intensive" industry, using large amounts of high-level, high-cost manpower. In

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competing with less labour-intensive industries whose productivity is steadily rising, education will always lose the race, badly, until it does something about its excessively labour-intensive character, and something to improve the productivity of the human talents it employs. Educational salaries must keep rising in any event, even though educational efficiency and productivity do not, if education is to maintain a competitive position in the manpower market. When education fails, for budgetary reasons, to maintain such a competitive position, it gets poor teachers instead of good ones. Then the educational "Gresham's Law" goes to work and the system sinks lower into mediocrity and inefficiency.

The necessity to strengthen teacher training, plus the substantial "leakage" of trained teachers from the system, impose high "capital costs" for each teacher who actually enters teaching and stays on. Furthermore, the extreme spread between lower and upper salary scales in teacher pay structures, based on formal qualifications and the vertical echelons of the system, causes large increases in unit costs per student whenever poorly qualified teaching staffs are upgraded or replaced by better qualified ones, and as the more costly secondary and higher levels of the system's "pyramid" flesh out in relation to the primary level. Automatic salary increments and retirement benefits, which have their own justification, also keep pushing up costs as the average age of the teacher corps rises, which it does when expansion of the corps slows down.

Increased emphasis on scientific and technical studies at the secondary and higher level, which have inherently higher unit costs, steadily raise the overall average of costs per student for the whole system. Costs per student also enlarge quickly as over-crowded classes are brought back to normal size.

The combined effect of a few (not all) of the forgoing cost-increasing factors is demonstrated in the following chart, which is based on data from several African countries. Keeping the rate of school enrollment constant, but upgrading somewhat the qualifications profile and reducing the class size, has the effect of more than doubling the overall primary education cost in ten years. If, in addition, one tries to increase the enrollment ratio, and takes into account the fact that educational salaries just keep rising in any event, the result is that overall costs quadruple, at constant prices.

Two further important points must be made about education's cost dilemma. One is the simple but often overlooked fact that a new building commits the system to sustained future recurrent costs. More research is needed on what the ratio of initial investment costs to subsequent annual recurrent costs actually is under different circumstances. But in France, for example, it seems at

Chart

The probable cost of improving the standard of primary education

1. A COUNTRY ...

Population:
5 000 000
Primary school
enrolment:
400 000
Enrolment rate:
33%

8 000 teachers	
15% qualified	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
25% semi-qualified	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
60% non-qualified	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
	\$120 \$300

each for

50 pupils

is spending

\$2m

\$2m

on primary education

2. TEN YEARS LATER...

Keeping the same
enrolment rate,
BUT
improving
educational quality
by
upgrading the
qualification profile

11 310 teachers	
27% qualified	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
48% semi-qualified	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
25% non-qualified	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

each for

40 pupils

will spend

\$2m

\$2m

\$2m

\$1m

on primary education

3. ALTERNATIVELY...

Increasing the
enrolment rate to
50%
Increasing the
salary scale by
2.5% per annum
in real terms

16 965 teachers		with salary scales of	
27% qualified		\$1800	$1.28 = 2\ 304$
48% semi-qualified		\$720	$1.28 = 922$
25% non-qualified		\$300	$1.28 = 384$

will spend

\$2m

\$2m

\$2m

\$2m

\$2m

\$2m

on primary education

present to run in the neighborhood of 6 to 1 at the primary and secondary levels, and about 7.5 to 1 at the university level. In other words, once a new school is built, the costs of running it each year thereafter will be at least one-sixth of the original cost. A spot check in the Ivory Coast suggests a ratio of 5.8 to 1 at the primary level. In Uganda a similar ratio seems to hold for general secondary schools. The essential point is that new capital investment in education—free or paid for—puts a mortgage on the system's future income. This needs to be watched with special care by developing countries, lest the new school building offered them on easy terms, with the best of intentions and advice, should turn out, as in the fable, to be a "white elephant" which later will eat the recipient out of house and home.

The other point concerns the heavy cost impact of dropouts and repeaters, and of "finishers" who end up never applying their extensive training to what was intended. The actual cost per graduate, when the full costs of dropouts and repeaters are imputed to the finished products, is shown in the table below, for a Central American country. It contrasts the "nominal" cost of a cycle, if each entering student actually finished "on time," with the "actual" cost per graduate when total costs of repeating grades and of "non-finishers" are taken into account.

Unit cost by level in a Central American country in 1963/64				
Educational level	Nominal cost per pupil per year (\$)	Nominal length of cycle (in years)	Theoretical cost per cycle (\$)	Actual cost per grade, etc. (\$)
Primary	51	6	306	800
Secondary (academic)	104	5	520	2,970
Secondary (vocational)	217	5	1,085	5,285
University	391	(1)5	1,955	9,739

(1) Average duration

Source: Unpublished data

Achieving Educational Efficiencies

The serious cost condition of which we speak must not be made to look completely hopeless. It is not. There are many different ways, some already well-demonstrated, of achieving educational economies consistent with quality. Educational systems can profit greatly from one another's experiences in this respect, if the experiences are

scientifically appraised, reported, and circulated. It is clear that there is no single panacea; the task must be gone at from many angles, at many points, and with enormous determination. Nevertheless, some examples are listed for the clues they may offer to the future:

Reduction of school construction costs, through the application of modern planning and engineering methods, has been achieved in the United Kingdom and Mexico, among other places, and through methods sponsored by UNESCO school construction centres in developing regions.

Redeployment and more intensive utilization of available space. Certain U. S. universities have adopted year-round academic schedules. Double shifts in primary schools in developing countries, such as have been used in Tunisia and several Latin American countries, are not considered a desirable long-run solution, yet they are an interim expedient, still heavily used by the U. S. S. R. and, in some cases, the U. S. They have permitted more children to get proper schooling, evidently without serious injury to quality.

Introduction by radio and television of excellent teaching and new and more up-to-date subject matter permits extension of education to new clients at much lower costs than by conventional means.

Lengthening of school hours is possible in certain developing countries where school hours and the school year were much too brief to ensure satisfactory results.

Sharing of expensive school facilities and specialized personnel by two or more neighbouring institutions (e. g., laboratories, athletic or eating facilities, auditoriums, courses of study, etc.) is sometimes possible without incurring heavy offsetting costs in transportation or boarding accommodations.

Sharing of specialized high-cost university programmes. Neighbouring states can often afford to accomplish together what they cannot do alone. Among a number of existing examples are the universities in Central America, and the Universities of Dakar and Abidjan.

Teacher aides (i. e., para-professional "helpers" in the classroom) can handle clerical chores and housekeeping, thereby helping the regular teachers to do more direct teaching. Quite a few public schools in the U. S. are using these aides.

Greater emphasis on well-planned self-instruction—for example, use of programmed learning materials, "teaching machines," and language laboratories enables students to learn more intensively

and teachers to serve more students. There are numerous examples in North America and Europe and a few in developing regions.

Increased expenditure on textbooks and other "learning aids" enables students to learn more on their own, raises teacher productivity, and "protects" students against poorly qualified teachers. (Unfortunately the reverse trend exists in many developing countries, where pressure of rising teacher costs has the counteracting effect of depressing allotments for instructional materials.)

Modernization of procurement, stockpiling, and distribution of school materials, sometimes, as in New York City, entails economies of de-centralization.

Consolidation of under-sized educational institutions into larger, more efficient, and better-quality units applies especially to secondary schools and small teacher training institutions. (But several Latin American countries have run the other way in proliferating astonishing numbers of "mini-universities," which cannot possibly hope to be either educationally or economically viable.)

Still, as desirable as they are, relatively "conventional" actions such as these, even if broadly applied, are unlikely to be sufficient to stem the powerful upward trend of educational costs. Something more is needed, a fundamentally fresh strategy of approach towards raising the efficiency of education and the productivity of its available resources. We cannot claim to know what this new strategy should be, but a few guiding principles suggest themselves:

A systems approach to the teaching-learning process, instead of piling new things on old or trying out a new gadget simply because it seems a good idea, requires a coherent effort to redesign old systems and incorporate new elements, with the express aim of solving a significant educational problem that is clearly insoluble by conventional means. Imaginative redeployment of space, time, and personnel into new combinations might yield better learning results and make available resources go farther.

Heavier capital investment in the learning process—in facilities, equipment, and learning materials—can lift education from the handicraft stage, utilize more fully the capabilities of the human brain, give the teacher a wider range of tools to work with, and, as in other modern enterprises, boost his productivity and quality.

The principle of economies of scale needs to be applied, so that full economic advantage can be taken of facilities and techniques which have a high initial cost but which, spread over enough users, have low unit costs—e.g., television, medical schools, specialized research libraries, etc.

Under the "division of labour" principle, the scarcest resources—such as exceptionally talented teachers—need to be efficiently employed to extend their reach and multiply their effectiveness (e.g., as leaders of teaching teams, as revisers of curricula, or for television instruction), rather than being given "garden variety" assignments. Similarly, fully-trained professional personnel and para-professionals (e.g., the surgeon, the nurse and the nurse's aide; or the executive, his professional assistant, his secretary and the telephone operator) need to have different tasks so that all are used to their fullest potential and not wasted on things below their ability or for which they have no "comparative advantage." Much of education, though by no means all, involves communication of ideas, knowledge, concepts, and demonstration, and this can frequently be accomplished with excellence—at low unit cost—by a true master of the subject, aided by modern means of communication, thereby releasing the professional teacher "on the scene" to handle those subtle and important person-to-person relationships for which technology has produced no adequate substitute.

Fuller exploitation of each student's native curiosity and ability to learn on his own might be possible through wider use of study guidance and the means of self-instruction (e.g., programmed learning, language laboratories, TV, etc.); through use of the professional teacher to guide, inspire, and orchestrate learning; and through intensification of research to determine the conditions under which the new techniques can in fact make for greater efficiency. Recognizing and taking advantage of individual differences can be more productive than adherence to group methods and routines which seem to depersonalize students by forcing them into a standardized lockstep convenient to the school's logistics.

Finally, an end must be put to education's position as the recipient of technological hand-me-downs, invented for other purposes. Means and processes must be established for clearly defining education's own peculiar problems and functional needs, and the highest ingenuity of modern science and engineering must be applied to finding solutions which really "fit" education's unique problems and needs.

Nothing will be gained by perpetuating the myopic "battle of semantics" between educators, economists, and others. If the real educational battle is to be won, the leaders of various professions and disciplines must combine forces in a mutual creative effort to improve both the pedagogical and the economic efficiency of educational systems. Without this, the children of the world, and the whole of the next generation, will be the heavy losers.

[Excerpted from "The World Educational Crisis—a Systems Analysis." Paris: International Institute for Educational Planning, 1968, pp. 151-159 of advance text.]

EDUCATIONAL WASTAGE

United Nations Educational, Scientific,
and Cultural Organization (UNESCO)

[Those who drop out of school or repeat grades constitute an enormous drain on the educational system—estimated at \$100 million a year in Asia—to say nothing of a colossal waste of human potential. Experiments under way in Asia have shown how it is possible to combat this problem of educational wastage.]

Of about 30 million children enrolled each year in grade I in Asian schools, fewer than 50 percent are likely to complete their first level of education. The rest will either repeat grade or withdraw from school prematurely. Those who withdraw are likely to remain illiterate or lapse into illiteracy. This represents a tremendous waste of human potential, educational facilities, and financial resources. The "cost" of wastage in the region is estimated at \$100 million a year.

The term "educational wastage" includes two main components: 1) grade repetition, which refers to pupils who are held back in the same grade and do the same work as in the previous year, and 2) dropout, or withdrawal from a school cycle before its completion. A number of recent studies cast some light on the amount and causes of educational wastage in Asia.

While there is no consistent relationship between per capita income or level of enrollment and the level of wastage, countries with higher per capita incomes and high enrollment ratios tend to have lower rates of wastage. As shown in Table 1, the incidence of wastage is invariably greatest between grades I and II in countries with a "high" wastage ratio (over 56 percent). In countries with "medium" wastage ratios, the incidence increases mainly in the last one or two grades of the primary cycle, reflecting a greater rate of

TABLE 1

Wastage ratios, in relation to grade I enrollment at the first level of education (boys and girls)

Country	Cohort	Grade Wastage ratios (%)					
		I	II	III	IV	V	VI
Afghanistan	1959	-	6	11	28	40	50
Burma ^{1/2/}	1958/59	-	69	78	84		
Cambodia ^{2/}	1959	-	38	48	58	67	70
Ceylon ^{3/}	1959	-	9	16	24	34	
China, Taiwan	1959/60	-	5	6	8	8	11
India	1956/57	-	41	51	59	65	
Iran	1959/60	-	10	14	22	31	35
Korea, Rep. of	1959	-	5	7	12	13	15
Laos ^{2/}	1959	-	52	65	77	84	84
Malaysia ^{4/}	1959	-	2	3	2 ^{5/}	8	16
Mongolia	1961	-	4	6			
Pakistan	1958/59	-	50	64	70	73	
Philippines	1958/59	-	16	23	33	42	49
Singapore	1957	-	10	14	25	30	25
Thailand	1959	-	32	39	48		
Viet-Nam, Rep. of	1959	-	27	40	55	60	

1/ Burma proper. 2/ Public schools. 3/ Starting with grade I-B.

4/ Former States of Malaya only. Data refer to "Assisted Schools."

5/ Due to new admissions and promotions from "Express Classes."

repetition as a result of promotion policies. In countries with "low" wastage ratios (below 26 percent), the incidence is evenly distributed throughout the grades. The wastage ratio is almost always higher among girls than boys, and higher in rural areas than urban.

It should be noted that a number of Asian countries (Ceylon, Malaysia, the Philippines, South Korea, Taiwan, and Thailand) have shown a steady improvement in wastage ratios in the 1950s and '60s, particularly with regard to girls. In all of these countries, a high level of enrollment and marked reduction in wastage have gone together. In Burma, however, between 1950 and 1960 enrollment ratios increased from 20 to 71 percent but waste ratios appear to be unchanged.

Causes of Wastage

The factors associated with wastage do not operate in isolation. Social, economic, and cultural causes seem to account for a substantial proportion of wastage through dropout. Poverty is, of course, a fundamental factor. In the Philippines, the national survey found that 93 percent of the dropouts' families had less than the average per capita income. In Ceylon, it was observed that non-attendance often arises because poor parents "would not wish their children to be the subject of scornful comment of other children or teachers." A recent survey of primary school enrollment in an Indian village revealed that children had been withdrawn from school for such reasons as lack of clothing or inability to pay a small fee for extracurricular activities.

Family poverty also leads to the need for children to work at home, taking care of younger brothers or sisters or doing agricultural chores, etc. This leaves them little time to study and results in failure in school. Family poverty also contributes to wastage through malnutrition and poor health conditions.

The level of literacy in the family and the educational status of parents are relevant factors in the child's educational growth, as are traditional attitudes towards education. Schooling for boys is favoured as a means of upward social mobility, but for girls household duties are still considered more important. In addition, studies undertaken in Thailand and Iran showed that failure in school, leading to repetition or dropout, was more likely among pupils whose parental language was different from the medium of instruction.

In all studies, it was found that irregularity of school attendance—due to "lack of interest," illness, or need to work at home—was associated with dropout and repetition. And many studies have confirmed that a pupil who fails once tends to repeat in subsequent grades also.

Factors which have their origin in the school—its structure and programme—are equally significant. As shown in the following chart, as many as 80 percent of the children in primary school are two years older than the "norm" for their class, both because the school system has expanded rapidly and because of repetition. The ratio of wastage seems to be higher among older children in a class. Furthermore, incomplete primary schools (not having all grades of the primary cycle) contribute to wastage through dropout, as the pupils have to transfer to other schools if they are to complete their primary education. In Afghanistan, Cambodia, India, Iran, and Laos, dropouts of this sort contribute substantially to the total wastage. Since these schools are generally located in rural areas, the wastage ratio for rural children, particularly girls, is increased. There is little evidence to show that class size or pupil-teacher ratio are necessarily related to high dropout or repetition ratios.

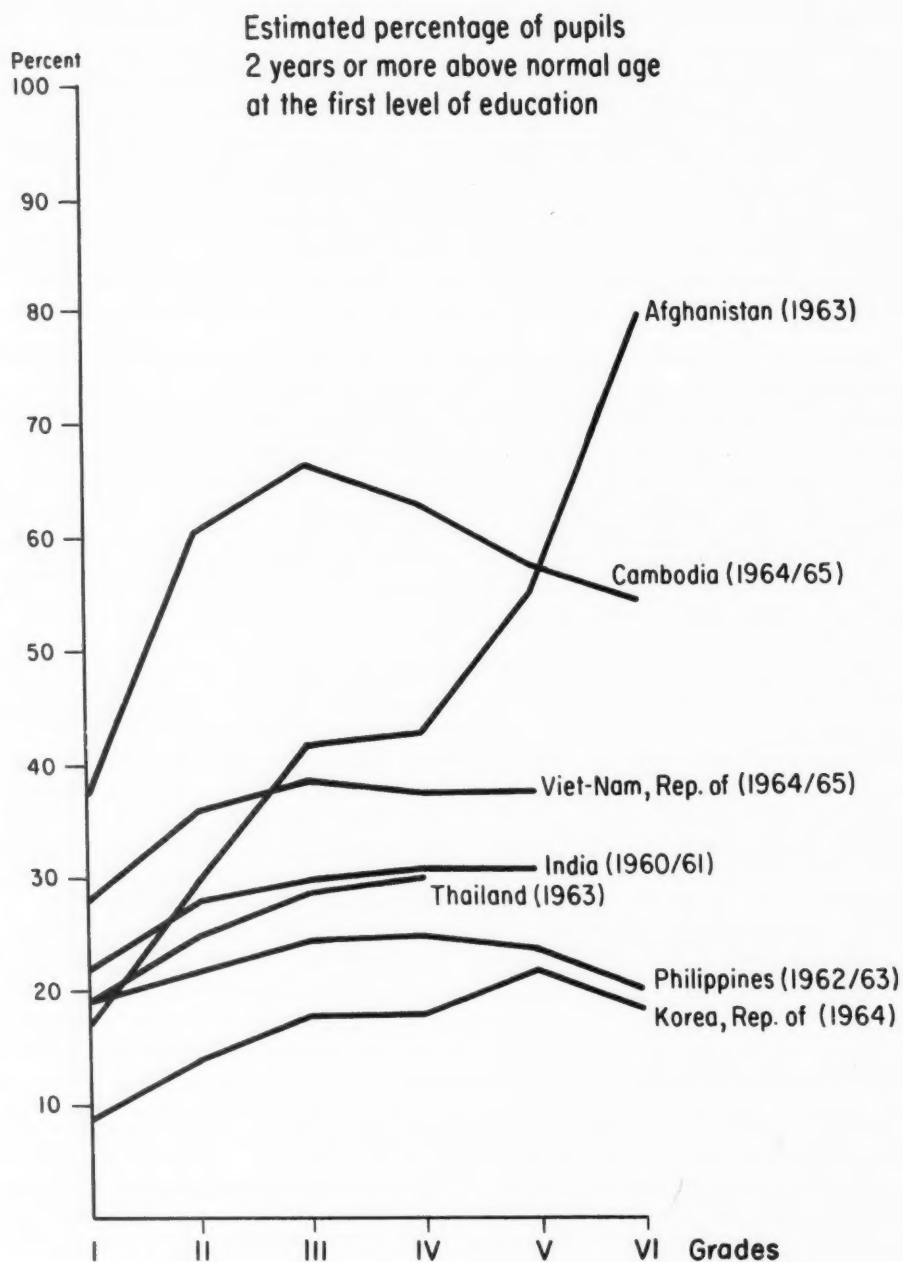
Wastage through repetition appears to be essentially a failure of the educational processes. The rate of repetition is determined largely by the way the education system assesses the suitability of pupils to be promoted from one grade to another. Formal year-end examinations given at too early a stage in the educational career of a child are mainly responsible for the high incidence of repetition. In countries such as Malaysia, the Philippines, Taiwan, and South Korea, the percentage of failures in the beginning grades is kept low because the rigidities of the examination system have been relaxed or done away with altogether.

When teachers are asked to identify the causes of wastage, they tend to attribute a substantial proportion to pupils' "lack of interest in learning." For example, one Philippine survey attributed nearly 47 percent of dropouts to this factor. Lack of interest, however, is itself complex. When teaching methods and materials emphasize conformity, rote learning, and memorization, they induce and perpetuate a passive attitude toward learning. Lack of attractive textbooks and instructional materials, crowded classrooms, lack of facilities for home or independent study, absence of individual attention—all these combine with others to contribute to wastage through pupils' "lack of interest," as does an antipathetic home atmosphere.

Wastage: Its Implications

A high ratio of wastage in an education system constitutes educational deprivation in one of its most acute forms. Since wastage is almost invariably higher among children who belong to socially or economically handicapped classes, existing imbalances between social groups or geographical regions are accentuated and the sections

CHART 1



of the population which most need the socializing influence of education are deprived of it. Since educational attainment is associated with higher income-earning capacity, a situation of ever widening inequality of income distribution tends to be perpetuated.

Furthermore, educational wastage constitutes loss of ability potential. A high ratio of wastage, with its incidence mainly in the beginning grades, has the effect of screening out pupils on the basis of factors more related to their environment than their abilities.

Repetition inflates enrollment and leads to overcrowded classes, particularly in grades I and II where individual guidance is most essential. The age composition of the class becomes more heterogeneous and instructional efficiency suffers.

To the educational administrator and planner, educational wastage presents itself as a negative return on an investment of instructional hours, classrooms, and equipment. Table 2 is an attempt to estimate the financial cost of wastage at the first level for some Asian countries. The method used here is based on a comparison between the "minimum" number of pupil years required to reach the last grade of the primary school cycle and the "actual" number of pupil-years used. The actual number is computed on the enrollments in different grades as a "cohort" (a group of pupils enrolled in a given grade in a given year) is followed through. (It would have been preferable to use the number of pupils actually graduating, instead of enrollment in the final grade, but this data was unavailable.) Although the estimation does not fully take account of second and third repeaters in a grade, it serves to draw attention to the quantum of ineffective instructional investment.

The estimated financial cost of wastage per pupil has been computed by applying the unit recurring cost to the minimum number of pupil-years required and the actual number of pupil-years used respectively. It will be observed that the coefficient of wastage ranges from 105 to 258, the average for the region being around 150. The financial cost of wastage varies from 2 to 25 percent of the total education budget in the countries of the region.

The effects of repetition and dropout on the efficiency of the school system are not the same. A substantial reduction of repetition would increase the output for the same enrollment with little additional cost; a reduction of dropout would increase enrollment and call for additional outlay, but the cost per pupil successfully completing the primary cycle would not increase and might even decrease.

TABLE 2

Financial implications of wastage at the first level of education for

	(1) Enrollment in last grade of 1st level (in thousands)	(2) Av. years taken to complete 1st level Minimum	(3) Actual	(4) % increase in actual pupil- years
Afghanistan	21	6	9.4	157%
Burma ^{1/}	142	4	10.3	258
Cambodia ^{1/}	44	6	10.7	178
Ceylon	203	5	6.3	126
China, Taiwan	325	6	6.3	105
India	3,895	5	8.0	161
Iran	206	6	7.5	125
Korea, Rep. of	663	6	6.4	107
Laos ^{1/2/}	14	3	5.2	172
Malaysia ^{3/}	161	6	6.8	113
Pakistan	602	5	9.0	181
Philippines	519	6	8.6	143
Singapore	43	6	6.6	110
Thailand	678	4	5.4	134
Viet-Nam, Rep. of	171	5	7.9	158

^{1/} Public schools only. ^{2/} Data refer to the first three years of

cohorts starting around 1959

(5) Av. annual ex- penditure per pupil at first level, 1961-65 (local currency)	(6) Total cost per student 1st level Minimum (2)x(5)	(7) Actual (3)x(5)	Estimated Wastage	
			Total	As % of
			Cost (in millions) (7)-(6)x(1)	annual edu- cation budget 1961-65
400	2,400	3,760	29	6%
50	200	515	45	25
1,100	6,600	11,770	228	20
100	500	630	26	8
459	2,750	2,890	45	2
30	150	240	351	9
3,000	18,000	22,500	928	7
1,579	9,470	10,110	424	3
1,700	5,100	8,840	53	10
143	860	970	18	7
25	125	225	60	8
82.5	495	710	112	20
162	970	1,070	4	5
232	930	1,255	220	11
1,100	5,500	8,690	547	22

the first level. 3/ Former States of Malaya only.

Measures for Combatting Wastage

Increasing attention is now being given to the means for combatting wastage, and valuable experience is being acquired.

In Malaysia, for example, the problem of dropout was approached through an attack on repetition. Since 1956, schools have not been allowed to detain any pupils in a grade. A 1965 survey revealed that, if there had been no automatic promotion, an average of 10 per cent of the pupils in each primary grade would have been detained to repeat work in the same standard; it is interesting that this percentage of "potential repeaters" is much lower than the percentage of repeaters in other countries where there is no automatic promotion.

Ceylon is approaching the wastage problem through social measures designed to reduce the parents' educational costs—e.g., provision of free lunches to pupils, supply of free or subsidized textbooks, and concessional rates for school bus transport.

In India, the experiments of the Municipal Corporation of Bombay are of special interest. These comprised the introduction of activity methods of teaching in grades I and II, the allocation of experienced teachers to the beginning grades, a systematic campaign for parental cooperation through parent-teacher meetings, etc., and the provision of milk and medical services. Investigation showed that children failing in grade I lag behind other children in scholastic achievement by only 2-7 weeks; instead of being forced to repeat the earlier grade for the whole year, such children are now placed in a "parallel class" equivalent to grade II where teachers can give them individual remedial attention. It has proved possible to absorb them in the regular classes over a period of 2-3 years. For some schools in the experimental project, the "ungraded unit" was adopted. Children in grades I and II were grouped not gradewise but on the basis of their general ability and achievement and were transferred freely from one group to another according to the pace of their scholastic progress. These various experiments have reduced wastage in the beginning grades by as much as 76 percent.

Experience indicates that remedial measures must be undertaken in concert so as to reinforce each other in their influence. Data collection must be improved so that the dimensions of the problem can be gauged. Teacher quality must be improved. The school curricula must be brought into line with the needs of the environment. Good equipment and teaching materials must be made available in sufficient quantity. The promotion policies which contribute to repetition have to be re-examined. In developing remedial measures, furthermore, the social, economic, and cultural context in which the school functions needs to be borne prominently in mind. As the

Philippine National Survey concluded, even a small monetary contribution from pupils is too onerous for many large, indigent families. Measures such as provision of school meals, free supply of textbooks, and study places in school for children who cannot study at home are not mere "fringe" benefits; they contribute directly to an improvement in education. School terms need to be set to avoid peak periods of local economic activity. Also, effective formal education in schools is clearly linked with effective adult education.

[Condensed from "The Problem of Educational Wastage at the First Level of Education in Asia," Bulletin of the UNESCO Regional Office for Education in Asia. Bangkok. Vol. I, No. 2, March 1967. 68 pp. and suppl.]

KERALA: A CAUTIONARY TALE

Koilpillai J. Charles and P.G.K. Panikar

[Excessive educational acceleration contributes to political instability, social unrest, and retardation of economic growth in the absence of adequate capital formation. Kerala provides a classic case.]

The recent revival of interest in education as an investment good is characterized by systematic attempts to subject the relationship between education and economic growth to formal analysis and quantitative assessment. While this development is welcome and long overdue, modern literature on the subject shows evidence of a pronounced tendency to uncritical and over-enthusiastic claims on behalf of education. That education is an important requirement of economic growth is fairly obvious. The real economic question is whether it is so much more important than capital formation as to warrant the shift of the meagre resources of developing nations from capital formation to educational expansion. Since the view that gives the claims of education priority is already gaining popularity, as is evident from the lofty educational plans that have emanated from so many recent conferences, with the encouragement of the UNESCO and other international organizations, it is of considerable importance that it should be subjected to careful empirical and logical examination.

As one contribution to this effort, the present study attempts to test the hypothesis that assigns education a more crucial role than capital formation in economic growth, against the empirical evidence

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provided by Kerala, one of the States of the Indian Union, long distinguished for its outstanding educational attainments. We believe that our findings are of such a nature as to permit generalizations of wider applicability.

The Level of Education in Kerala

The States of Travancore and Cochin, which now largely comprise the modern state of Kerala, were never subject to direct foreign rule, and, under reasonably enlightened kings, followed a conscious policy of educational development. As a result, Kerala has long been an educational oasis in the Indian desert of illiteracy. Its general level of literacy is over 47 percent, almost twice as high as that of the country as a whole. In Madras, which ranks second in this respect, the proportion of literates is only about two-thirds of that in Kerala. It is also significant that, where only 12.9 percent of the Indian female population were literate in 1961, the corresponding proportion for Kerala was 38.9 percent—three times as high.

In the spheres of secondary and higher education, too, Kerala has reached a level of development that is unique in India. According to the last Census, a little over half a million people of Kerala had high school (10 years) or higher education. Enrollment in 1961 stood at 81.6, 64.6, and 62.7 percent respectively of the population in the age groups 6-10 (primary), 11-13 years (middle), and 14-16 years (high school). During the academic year 1962-63, there was a full-time degree-level ratio of about 32 college students for every 10,000 of population. The corresponding ratios in 1960 for France, United Kingdom, Netherlands, and Soviet Union were 32, 20, 44, and 56, respectively.

The tradition of according education highest priority in the public expenditure has been continued after Independence by the elected governments of Kerala. In recent years, education has accounted for 32 percent of the total expenditure of the State Government on revenue account and far exceeds the per capita expenditure levels in other states of India. As a percent of regional income, spending on education accounted for 4.4 percent during 1960-61. This exceeds the proportion of the gross national product earmarked for education by such governments as Canada, France, New Zealand, and Sweden during a comparable period. In brief, in terms of such criteria as level of literacy, enrollment of young persons belonging to different age groups in educational institutions, and public expenditure on education, Kerala belongs more to the ranks of the developed nations than to the company of her sister states in India.

Kerala is also well-endowed by nature. The beach sand deposits in Quilon district contain large concentrations of heavy minerals like

ilmenite, monazite, rutile, silimanite, and zircon. With rainfall averaging 96 inches per year, her farmers are happily free from problems of irrigation, the bane of Indian agriculture. About 44 rivers with a total run-off of 2,500 TMC feet, running over steep falls or a series of cascades, provide abundant potential for the production of hydroelectric power. Kerala accounts for 70 percent of the area under coconuts in India, 50 percent of the area under areca nuts, over 95 percent of the total Indian output of pepper, and has a near monopoly in the national production of rubber. In addition to possessing ideal conditions for the growth of commercial crops such as cardamon, tea, and cashew nuts, a large variety of forest products are awaiting commercial and industrial exploitation.

In the light of recent literature extolling the economic benefits of education, the interaction between the abundant natural resources of Kerala and the rich stock of her human capital should have produced a throbbing, dynamic economy, towering above the rest of India in prosperity and material well-being—in short, a shining example of the thesis that education is the most powerful engine of economic growth.

Has this been the case?

The Level of Economic Development in Kerala

In marked contrast to the high level of educational attainments of Kerala, her economy remains poor, underdeveloped, and stagnant. Per capita income in the State was barely \$54 in 1960-61, the latest period for which estimates are available. According to the Department of Statistics, 14 percent of the labour force is unemployed, while an excessively large number of persons are underemployed.

The paradox of poverty in the midst of literacy and abundant natural resources becomes more disquieting when it is seen that Kerala is lagging considerably behind her illiterate and backward sister states in the level and rate of her economic development. Per capita income is just a little over 84 percent of the national average, one of the lowest among the Indian states. Agriculture accounts for a higher proportion of the State's income than the national average. Income originating in factory establishments in Kerala accounts for 3.8 percent of the regional income, as against 8.6 percent for India as a whole.

The capital investment in industries in Kerala is estimated to be Rs. 2,737 [1 rupee = \$.13] per worker whereas the all-India average comes to Rs. 5,830. In spite of an exceptionally high hydroelectric potential, per capita consumption of electricity in Kerala

is only three-fourths of the national level. The rate of urbanization is also very slow, as indicated by the low proportion of urban population.

The conclusion is inescapable that Kerala, judged by any standard, is a poor and backward state, and, more surprisingly, is less developed than the rest of India. On the face of it, all this suggests that the theory extolling the virtues of education might be wrong or in need of substantial modification. It is, therefore, necessary to examine in some detail the different channels through which education may be expected to generate economic growth, and to see how effective these channels have been in the case of Kerala.

A Re-examination of the Economic Effects of Education

The literature on the "economics of education" has its origin in the neo-classical theories, and the empirical studies based on them, according to which the increase of the traditional factors of production—land, labour, and capital—accounted for only a small proportion of the total increase in output that had occurred in the developed countries in the past. This unaccounted factor is assumed by some influential writers to be due to influences widely grouped under the heading of "technical and organizational progress" or "the human factor." And since these writers took it for granted that inventions, advances in technology and science, and innovations in organization are all heavily dependent on education and research, they readily concluded that education was an investment good par excellence. The resulting situation has been aptly described by T. Balogh, in the Oxford Bulletin of Economics and Statistics (1963):

Admittedly most authors are rather coy.... They will not, at any rate in the opening chapters, say outright that educational or technical progress was the cause of these increases in production. They first say that it was "associated" with it, or "contributed" to it. When it comes to the conclusions and policy recommendations, however, such scientific modesty is discarded and the qualifications are dropped.

In the capital-abundant nations of the West, it may be that the rate of growth can be stepped up only through further innovations in technology and organization, and these presumably depend heavily on education and research. However, in the developing economies, the process of capital accumulation is itself a process of technological progress, since the advanced technology and know-how will be contained in the capital they import or adopt. These nations do not need to spend large sums on education and research to step up the rate of technological and organizational progress. Hybrid corn, the

Japanese method of rice cultivation, L. D. process of steel production, the generation of atomic energy, are all technological advances which the developing economy can press into its service without incurring any cost of research and development. Thus, the role of education as an agent of technological progress is without much significance to developing nations necessarily dependent on imported technology.

There are, of course, other ways in which education can foster economic growth. On a priori grounds, the spread of education may be thought to increase the stock of entrepreneurship by widening the economic horizon and whetting the material appetites of a people. The Tatas, the Birlas, the Dalmias, and the Thiagaraja Chettiers of India, in their Schumpeterian attributes, can stand comparison with entrepreneurs of any of the developed nations. But the State of Kerala, despite her high educational attainments, has not produced entrepreneurs of that calibre. Indeed, indigenous entrepreneurship is conspicuously scarce. The few modern industries that exist have been established either under the aegis of the Government or by outside entrepreneurs.

Economic development of a nation in the modern twentieth-century technological environment requires a rising cadre of skilled personnel. But education is only one of the forces shaping skill formation and probably not the most important. Habit and custom are the other crucial influences. In societies lacking a technological environment, habit and custom are likely to be favourable to economic growth. Where the demand for skilled personnel is low, the value system of the society will accord greater respect to the lowest civil servant than to a competent engineer or business man, and the educational system will be fashioned accordingly. Even attempts to force the pace of economic growth by setting up educational systems designed to meet the requirements of growth are not likely to be fruitful. For it takes more than education—nay, even technical education—to create a reservoir of skill which is both broad and deep. In a society lacking a dynamic technological environment, technical education itself would degenerate into a mere scholastic pursuit, producing the spectacle of engineers, technologists, and agronomists displaying a lofty disdain for manual labour and seeking administrative and clerical positions.

In the past, education in Kerala, as in the rest of India, had a pronounced bias towards the humanities and the liberal arts. This imbalance is slowly being redressed and professional and technical courses are now receiving greater attention. In 1961-62, among the nearly 50,000 college students in Kerala, 15,645 were in the faculty of science, 2,674 in engineering, 1,479 in medicine, and 546 in agricultural and veterinary science. A few others were in junior

technical schools and polytechnics. But, partly as a result of the stifling effect of habit and custom referred to earlier, the graduates of the professional colleges and technical institutions are, on the whole, ill-equipped for their jobs.

Moreover, skill formation is further thwarted by the lack of suitable employment opportunities in the State. The more enterprising migrate to more dynamic areas of India, while the rest are absorbed into government departments in administrative or clerical capacities where their hard-earned skill is seldom called into play.

So much for the effect of education on skill formation. Education may also be expected to instill habits of discipline, punctuality, and cooperation among the rank and file of the labour force, besides increasing the workers' intelligence and their ability and willingness to work—qualities which would be of immeasurable value in the context of economic development. And under ideal conditions, education may indeed contribute greatly to the formation of these qualities. But in the absence of an expanding economy able to absorb into suitable employment the products of the educational institutions, education only generates discontent and indiscipline. Kerala workers are generally considered to be the most difficult to deal with in the whole of India. Their high propensity to strike and reputation for indiscipline and insubordination are indubitably among the major factors frightening away enterprise from the State.

Education may also be expected to contribute to lowering a society's rate of population growth by inculcating a rational attitude towards life and creating a motivation for family limitation. But in the case of Kerala, education has failed even to achieve this. According to the 1961 census, Kerala has the highest density of population (1,125 per square mile) in India. Between 1941 and 1951 its population increased at the rate of 2.3 percent per annum, as against the national average of 1.3 percent; and in the last intercensal decade it registered a still higher rate of increase—2.5 percent per annum—though the rest of the country is tending to catch up.

To sum up, the case for massive investment in education is not borne out by an empirical examination of Kerala. On the contrary, the experience of Kerala suggests that, in the absence of a high rate of capital formation, educational expansion does not contribute to economic growth. When the educational cart is put before the capital-formation horse, even the most obvious benefits of education fail to materialize.

Excessive Educational Acceleration

The analysis presented above may be said to have accounted for the failure of Kerala to rise above the rest of India in the level and rate of her economic growth. It does not, however, dispose of the basic paradox: why is Kerala more backward than her illiterate sister states? To resolve this paradox a bolder hypothesis is called for, and we find it in the concept of "excessive educational acceleration."

An imbalance between the rate of capital formation and the rate of educational expansion arising from an excess of the former over the latter is self-correcting, and is favourable to economic growth. In nineteenth-century Britain, for example, the spread of education was lagging behind the accumulation of capital, but the very process of industrialization was a learning process which contributed to skill formation and in due course created the demand for higher education, research, and professional training.

On the other hand, an imbalance arising from a rate of educational expansion far higher than that required by the rate and level of capital formation is self-aggravating, and contributes to political instability, social unrest, and retardation of economic growth. This kind of imbalance, of which Kerala perhaps provides the classic case, produces its disequilibrating forces in the following ways:

1. In a society characterized by economic stagnation and a low rate of capital formation, educational expansion breeds an army of educated unemployed—a constant source of social unrest and political instability, which in turn causes further economic decline. Kerala, as is well-known, presents a typical case, shifting from shaky coalition cabinets under either the Congress or Communist party to rule from the Centre when the elected legislatures fail. Kerala has been under President's rule for three times in the past eight years, a record of ministerial instability unparalleled in Indian democratic history.
2. Investment in education pays high dividends only in societies with abundant capital and a technological environment capable of absorbing skill and talent. In poor societies subject to low rates of capital formation, investment in education only contributes to the further impoverishment of society. Educated young men and women gravitate towards areas of brisker economic activity, education thus acting only as a whip to drive away talent, skill, and enterprise out of a poor society. Those who choose to remain behind find themselves engaged in activities in which their training and skill are not needed, and where their earnings are disproportionately low. In either event, the returns on education turn out to be low for a society which spends its meagre resources on education to the neglect of capital formation.

Kerala has the highest rate of interstate migration in India, as is strikingly attested by the large numbers of professional personnel and skilled and semi-skilled workers of Kerala found all over India. However, this emigration has resulted only in the depletion of skill and talent out of Kerala; it has not been on a large enough scale to set off market forces to work towards increasing the per capita income of the State. Under the present circumstances, Kerala is employing its scarce resources to train engineers, technicians, doctors, and nurses to support the economic expansion of more advanced states in India. The large numbers who choose to remain in the State, however, are unemployed, underemployed, or unprofitably employed. This has produced the spectacle of college graduates working as clerks, stenographers, bus conductors, checking inspectors, and a host of other occupations not beyond the capabilities of high school graduates of average intelligence. In view of the dearth of job opportunities, investment in education constitutes a colossal drain on Kerala's economy.

3. Another invidious impact of "excessive educational acceleration" is the tendency to reinforce economic stagnation by diverting physical resources and human talents from physical capital formation to further educational expansion. In Kerala education has grown into a major industry. Setting up an educational institution today is a lucrative business. The initial investment is not high and the required capital can be easily raised by appealing to sectional and parochial loyalties. Funds are also raised by way of capitation fees from prospective alumni and "donation" from prospective teachers. Once established, the running costs of the "firm" are met almost entirely out of government grants. Employment is assured to the kith and kin of the founders, who appoint themselves to prestigious positions in the management of the "firm." Non-market forces thus facilitate the flow of funds to the educational industry in the private sector. The educated unemployed having nothing else to do, start colleges, schools, and tutorial institutions. Thus, excessive educational acceleration feeds on itself cumulatively, attracting more and more human and material resources away from more productive investment channels.

4. Finally, the expansion of education in the context of a society characterized by economic stagnation will inevitably alter the quality and philosophy of the educational system in a direction inimical to economic growth. In such a society, education becomes a commercial activity operating without the checks and balances of market forces. Educational institutions come under the domination of unscrupulous men out to make a fast buck, with inferior and frustrated minds, neither able nor willing to prevent the deterioration in the quality of the educational product. Grants of permission to start new institutions, enforcement of standards by the appropriate authorities,

appointments to the staff, are all corroded by politics and by extra-academic considerations. Education is reduced to a mockery, and both the inputs and the outputs of the educational industry decline in quality in a mutually reinforcing vicious circle.

This indeed is the state of affairs in the educational setup of Kerala today. Disdain for manual labor, exaggerated veneration of civil service jobs, and contempt for physical and technological skills are attitudes characteristic of poor and stagnant societies, but these become heightened in societies with high educated unemployment, arising no doubt from an eagerness on the part of the educated poor to separate themselves from the uneducated poor. The very philosophy of education of society takes on a non-materialistic bias, and education is further robbed of its growth-generating properties.

The Need for Investment in Physical Capital

The findings of this study should be formulated with caution. The experience of Kerala does not show that education is unimportant to economic growth, or even that the educational development of Kerala, in an absolute sense, has been excessive. It suggests most emphatically, however, that the expansion of education unaccompanied by an adequate rate of physical capital formation produces a self-reinforcing disequilibrium that is inimical to economic growth. The case of Kerala provides a warning to developing economies against the cumulative drawbacks arising from the imbalance of a rate of educational advance far in excess of the pace of capital accumulation. It is this relative excessive educational acceleration that sets off the chain of forces that stifle economic growth and, finally, poison the very roots of the educational system itself.

The crying need of the hour in Kerala, and in most developing economies, is not mere educational expansion but an imaginative and radical revamping of the entire educational system to bring it into line with the requirements of economic growth. And this can be done only if the rate of physical capital formation is stepped up to produce an environment of economic expansion in which alone education can effectively contribute to growth.

[Condensed from "Education and Economic Development—A Case Study of Kerala," an original article.]

IMPORT SUBSTITUTION

NATIONAL POLICIES FOR IMPORT SUBSTITUTION

Shu-Chin Yang

[Policies for promoting import substitution—quantitative import restrictions, overvalued currency, multiple exchange rates, tariffs and subsidies, tax incentives, etc.—must be looked at to see if they make any collective sense, in terms of balance of payments and export-promotion goals as well as that of import substitution.]

Most developing countries today are confronted with the dual challenge of how to grow faster and how to overcome their balance of payments difficulties. An increase in the flow of external capital will be of great help. But it cannot be the final answer, for external loans must eventually be serviced and amortized—in other words, be paid back by goods and services. A more basic solution lies therefore in trade.

Successful import substitution and export diversification contribute substantially to the achievement of viable and self-generated growth. Through them, a developing country not only saves and earns more foreign exchange, but also broadens its production pattern, creates more employment, acquires new skills, etc. The concomitant development of resources tends to change the relative supply and prices of factors of production and, consequently, alters the comparative advantage position.

However, as latecomers in industrialization and economic development, less developed countries are faced with problems such as small size of the market,

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lack of basic economic facilities, lack of modern business organization and marketing techniques, etc. One can hardly expect them to compete outright with the older industrialized countries. The state must provide some support for new, infant industries.

If international payments were balanced, or if there were strong world demand for some of their exports, the problem of financing and fostering import substitution and export diversification would be relatively simple. For some years, however, exports of developing countries have been sluggish and their balances of payments weak. As a result, by the mid-1950s many of them had adopted trade and exchange restrictions to safeguard the balance of payments.

Such policies do not necessarily conflict with those for effective import substitution and export promotion. Indeed, they often move in the same direction. In some cases, however, policies designed chiefly for defending the balance of payments may not be right for promoting exports or for protection in the long run. It is from this viewpoint that the various national policy measures must be examined. The question is not how to justify protection and controls, but, rather, whether the measures being adopted make any collective sense. The answer cannot be simple, for many countries have adopted two, three, or even more kinds of controls—tariffs, subsidies, import surcharges, multiple exchange rates, quantitative restrictions, tax and credit incentives, etc. Some aspects of these measures relate primarily to import substitution, others to export promotion. Only the former will be considered here. [See DEVELOPMENT DIGEST, July 1967, for Mr. Yang's discussion of policies for export promotion.]

Quantitative Import Restrictions

One of the most common types of trade and exchange systems in developing countries has been a combination of an overvalued currency with quantitative import restrictions imposed primarily for the purpose of safeguarding the balance of payments. Since many developing countries today are experiencing slow growth of their traditional exports, they cannot do away with such restrictions.

What are the implications of quantitative restrictions for import substitution? Once quantitative restrictions are imposed on imports, prices of imported commodities in domestic markets tend to rise immediately. Price (and quality) competition is shut off. Prices and production of domestic substitutes tend to increase, too. The increased domestic production fills the existing supply gap as well as the growing gap caused by rising income. Such a system of encouraging import substitution is not always a blessing, however.

First, the pattern of restrictions is determined predominantly by balance of payments and cost of living considerations. Thus, less essential consumer goods and luxuries are usually more severely restricted than other commodities. Domestic production of such commodities, then, receives correspondingly higher protection and more resources are attracted to their production. For example, during 1955-62 output of domestic refrigerators and room air conditioners in India and the Philippines increased much faster than output of producer goods, such as caustic soda and cement, in the Philippines, and sulphuric acid and steel, in India. These developments have not corresponded to comparative advantage, and many developing countries have tried to correct the distortion in resource allocation by imposing excise taxes on the domestic production of socially less desirable goods.

Second, imports of capital and producer goods are usually given favored treatment. This encourages the use of imported inputs and discourages import substitution of raw materials, semi-finished products, or capital goods. Imported capital and producer goods are purchased at the overvalued official rate and are, therefore, cheap in terms of local currency to the users who can obtain import licenses. The fewer domestic inputs used, the more profit import-replacing industries can make. This is why the packaging and labeling—the "finish-touch"—industries, are flourishing in many developing countries under the quantitative restrictions system.

Industrialization in this form becomes rather superficial and lacks depth. Also, since imported capital goods are cheap, adoption of capital-intensive production techniques is encouraged even though labor is the abundant factor in the economy. Meanwhile, as imports of capital and producer goods are stimulated, the pressures on foreign exchange mount. Then more restrictions are needed on imports of non-essential goods; this further accentuates the distortion in resource allocation.

Third, as the import-substituting industries grow fast and the total availability of foreign exchange is limited, even the demand for the preferred imports of capital and producer goods cannot be fully satisfied. Moreover, cumbersome procedures in administering import licenses introduce delay, while favoritism and corruption prevent imports from flowing directly to the end users. The resultant shortage of imported materials and spare parts tends to cause many plants of the new industries to operate far below capacity. A substantial part of capital equipment invested becomes idle and wasted, the average cost is higher, and the output smaller.

Fourth, the application of quantitative restrictions tends to result in windfall profits to the favored importers. There is hardly any

incentive for improving efficiency of production under quantitative protection, for competition from abroad is limited by administrative decision. Price and quality are generally not determinants in setting import quotas. No matter how high the domestic market price, how poor the quality of domestic products, no more imports than the quotas are permitted. Higher prices mean, of course, welfare sacrifices on the part of the consumer. If this sacrifice can be compensated by future price reductions and increases in employment and real income, it may be justified as a necessary transitional state. But, it appears uncertain that this course will follow under the control system.

Fifth, closely related to the general inefficiency of the import-substituting industries is the penalty to the export sector. The fast-growing import-substituting industries tend to draw material, financial, and labor resources away from this sector. Where export industries use products of some import-substituting industries as their inputs, the high prices of such products also push up the cost of producing the exports. Such upward pressure on the cost structure can do much damage to the country's ability to earn foreign exchange, especially if accompanied by inflation.

The question is not whether or not to abolish quantitative restrictions entirely and return to free trade. Rather, it is whether some other combination of exchange and trade policies can do the job better. For instance, a downward adjustment of the exchange rate would reduce the need for quantitative restrictions and meanwhile restore the export sector to the position it deserves. Import duties can be adjusted to suit more specifically the purpose of protection and allow a reasonable amount of foreign competition. Even with all these changes, balance in international payments may still be unobtainable and quantitative restrictions may still be needed—but to a much lesser extent. They may still have to be used to curb imports of luxury consumption goods (in combination with corresponding excise taxes to discourage domestic production of similar goods) or as a protective device to prevent market disruption or countervail dumping. But they should be used only on a limited, selected basis.

Multiple Exchange Rates

Nevertheless, a country may not want to devalue its currency for a variety of reasons, including fear of inflation and loss of confidence in the currency. Multiple exchange rates, under which higher rates are generally applied to less essential imports than to basic food and capital goods, are a welcome compromise. This reduces greatly the pressure on demand for imports compared to a system of quantitative restrictions and siphons off at least part of the windfall import

profits. Many countries also use some quantitative restrictions in combination with multiple exchange rates, but the severity of such restrictions is much less. Low exchange rates are usually applied to traditional exports, because it is often found that such commodities can still be exported even under penalty exchange rates, and their supply appears to be rather price inelastic. Other minor, and particularly new, exports are usually "encouraged" by a higher exchange rate.

Thus, a partial devaluation becomes a substitute for across-the-board devaluation and straightforward quantitative restrictions. It significantly shifts the burden of defending the balance of payments and protecting domestic products from administrative controls to the price mechanism. Furthermore, by using stratified exchange rates, the government is generally able to circumvent the difficulties that tariff adjustment may raise with regard to internal legislation and external commitments under the General Agreement on Tariffs and Trade (GATT).

Insofar as the imports corresponding to the different exchange rates are classified on the principle of essentiality, the multiple-exchange-rate system, like quantitative restrictions, distorts the pattern of investment and encourages domestic production of the less essential commodities protected by the higher exchange rates (unless corresponding excise taxes can be imposed). This is not necessarily in accordance with prospective comparative advantage in the sense that, given a reasonable period of time, the industries would become efficient producers.

A more rational system of protection might require a large number of rates, each applicable to a few industries. But this may become impossible to administer. Each interested group will press for a more favorable exchange rate, or urge for a reclassification of the commodity concerned to a more favorable category. If exchange rates are multiplied to suit individual industries, then protective tariffs would be a better choice.

In spite of these deficiencies, the multiple-exchange-rate system has advantages over the system of currency overvaluation-cum-quantitative restrictions. First of all, it relies more on the price mechanism through disguised taxes and subsidies. Although the commodity grouping still requires some administrative decision, the reliance on arbitrary import quotas is greatly reduced. It challenges the adequacy of the official exchange rate and actually moves the "average" rate to a more realistic level. In case the average effective import rate is higher than the average effective export rate, the difference, representing a sort of taxation on international transactions, yields revenue to the government or

exchange profits to the monetary authority—which is a disinflationary factor. In many cases, a floating exchange rate is allowed to exist together with other rates, which helps to some extent the adjustments of demand and supply in the various balance of payments items. It also helps in finding a realistic level of the exchange rate. Thus, a multiple-exchange-rate system, if not complicated in structure and difficult to administer, can be an expedient transitional device toward eventual devaluation and unification of exchange rates. It should, however, not be a permanent system.

Exchange and import surcharges are akin to multiple rates. Exchange surcharges are usually applied to foreign exchange sold by the central bank for various kinds of external payments. Import surcharges usually take the form of different rates of ad valorem duties imposed over and above the regular import duties on broad categories of goods. The system is equivalent to multiple exchange rates applied only to the merchandise import side, not on exports and invisibles. Its effects on imports and domestic investment and production, and its administrative problems, are similar to those of a multiple-exchange-rate system.

Tariffs and Subsidies

A growing number of developing countries are moving away from quantitative restrictions toward multiple exchange rates and from multiple exchange rates toward a devalued unified exchange rate. They have, therefore, felt the need for relying more and more on tariffs for trade and development purposes and have begun to revise their tariff systems. But one cannot discuss an adequate level of tariff protection without looking also into other related measures. If the currency is overvalued, for example, the tariff would lose part of its power of protection. On the other hand, if quantitative restrictions are used, the need for tariff protection would be less. Thus, if the currency is overvalued by 20 percent, a 35 percent ad valorem tariff will only leave 15 percent net protection. But if, at the same time, quantitative import restrictions are also applied, and the domestic market price of the imported commodity in question is 25 percent higher than without the restriction, the net protection would be 40 percent. Excise taxes, if there are any, should be considered as negative factors. Thus, the level of protection is generally determined by the apparent tariff rate, plus or minus effective currency under- or overvaluation, plus the extent of a domestic price rise due to quantitative restrictions, and minus the excise tax rate.

It would be useful to mention briefly some of the basic reasons supporting the policy of tariff protection, for these reasons have a bearing on the choice of policy measures:

Structural rigidities. True long-run comparative advantage has not been realized in the developing countries, according to one school of thought, because of structural rigidities manifested in factor immobility.

Thus, it has been argued by orthodox economists that, since the troubles are deep-rooted, the remedy logically lies with improvement of factor mobility, such as land reform, education, training of labor, the development of capital markets, etc., rather than interference with foreign trade. Advocates of protectionism think such a remedy, while needed, would take too long to yield results. The real issue, however, is the choice of policy measures: tariffs vs. subsidies for the purpose of promoting import substitution. Orthodox economists prefer subsidies because they keep prices at competitive levels and do not distort price relations and consumption and investment decisions. In practice, however, few developing countries find it possible to organize subsidies in any substantial way to facilitate import substitution.

An effective program of subsidizing import substitution would require a large amount of public finance. Where would the funds come from? Internal taxation is exactly one of the fields where developing countries find it difficult to move ahead. In contrast, it is comparatively easy to tax imports. Thus we come back again to the question of tariff protection. Granted that import duties may have the side effects of some price distortion and misallocation of resources, but insofar as protective tariffs can be reduced and, eventually, removed as industries mature, such effects would only be transitional in character. They are not the optimum solution; but they are the second best and most feasible policy measure to adopt. Petroleum exporting countries, where ample financial resources are available and foreign exchange is not scarce, may present a special case. Here it may be desirable and feasible to use subsidies to encourage the development of import-substitution industries.

External economies. Another school of thought emphasizes that current costs and prices are unsatisfactory indicators of long-run comparative advantage because, if external economies can be realized in the future, the cost-price structure will change and so will future comparative advantage. Possible external economies include increased availability of economic overhead facilities or economic infrastructure; benefits of the learning process required for management, labor, marketing, methods of production, etc.; and the advantages of balanced growth and the interindustry relation. In order to bring out such external economies, protection is needed during the transitional period.

This line of thinking raises further policy questions with respect to protection. It is argued that external economies can be realized easily if a constellation of industries develops simultaneously. This would enable the transmission of external economies both horizontally and vertically throughout the whole industrial structure. Hence, the infant manufacturing sector as a whole must be protected instead of just isolated infant industries. This argument is reinforced by the existence of factoral immobility, for a general protection of the manufacturing sector tends to attract more underemployed labor from agriculture than isolated protection.

To make the protection of the whole manufacturing sector effective, it has been suggested that a uniform ad valorem tariff be imposed on all manufactured imports, leaving the selection of individual industries to market forces, or that a system of dual exchange rates be introduced. This would eliminate the need for government to decide what industries are eligible for protection.

If a uniform ad valorem tariff on all manufactured imports is superimposed on the existing tariff regime, it would mean an import surcharge on manufactures. This measure would have the effect of reducing import expenditures. It would tend to give higher protection to those industries whose competing imports are price elastic in demand than to those whose competing imports are price inelastic. This may not be in conformity with comparative advantage. However, an underdeveloped economy that relies heavily on a few primary exports and is in the initial stage of development has no way of identifying those manufactures that have a potential comparative advantage. Adoption of uniform protection may be helpful in inducing initial diversification, with the choice of industries suitable for individual protection left to a later stage. But for those countries where import or exchange surcharges, or multiple exchange rates, or quantitative restrictions are already in force, and some industries have been established, there should be some clues as to the suitable pattern of industrial development. In such cases, specific protection may be considered.

Aspects of Tariff Protection

We have just touched upon the question of general vs. selective protection of manufacturing. Other important questions are how to define the degree of tariff protection, what should be its appropriate level, and how long it should last.

It is very important to distinguish the apparent rate of protection from the effective rate of protection. The apparent rate of protection is the ad valorem tariff rate on the price of the product of the

industry, while the effective rate of protection is the ad valorem tariff on the "value added" per unit of output of the industry. Since the industry's direct contribution to the economy is represented by its "value added," the effective tariff rate represents the real protection. For example, if the apparent tariff rate on cotton cloth is 30 percent, and the cotton weaving industry added 40 percent to the end products, the effective tariff protection of the industry is 0.3 divided by 0.4 equalling 0.75, or 75 percent.

Thus, with the same rate of apparent tariff, the effective rate of protection can differ among industries, depending on the differences in the proportion of value added. If there are no tariffs on imported inputs, the lower the percentage of value added, the higher will be the effective protection of the industry. If imported inputs are also taxed and if industry cannot change further its proportion of value added or raise the price of its output, then the effective rate of protection is reduced, and for the economy as a whole protection becomes more widely and evenly distributed.

If the country's resource endowment is such that certain raw materials or semi-finished products cannot be produced at all, zero tariffs on such inputs would not hamper domestic production of their substitutes. But if there are ample possibilities of producing such intermediate products at home, and if the end-product industries have progressed to the point where they can survive low effective protection, an imposition of tariffs on those inputs tends to extend the process of import substitution to semi-finished goods, raw materials, or even to capital goods.

Sooner or later, a stage may be reached where tariffs on such intermediate goods as the country might eventually produce economically will have to be increased—India has already raised her tariffs on machinery, for example—while tariffs on light manufactured goods already close to economical production may have to be gradually reduced. The latter is particularly important, because many industries after succeeding in import substitution will be ready to export part of their production. Their efficiency must be further improved in order to compete in foreign markets. In this dynamic approach to a tariff policy, it is important to examine the individual industries carefully in deciding the tariff level and the time scheme for gradual reduction. A spread of high tariffs among all industries tends to push up all costs of production. The success of this policy depends greatly on the intelligent selection of the right industries at the right time.

There is obviously no a priori way to determine the absolute suitable level of tariff protection. In general, a tariff wall should not be so high as to push the cost structure of the economy up so as to

damage its ability to export and to lessen its prospects of eventually lowering the tariff wall. It may be argued that broad protection would permit a cluster of industries to become established, forming each other's market. But this neglects the "cost-push effect" on the supply side. If extensive tariff protection is given, it is likely to raise costs through the input and output linkages in the entire economy. A high tariff on chemical fertilizer, though protecting the domestic chemical fertilizer industry, will, for example, increase the cost of agricultural production. Consequently, exports of agricultural products may be hampered.

In addition to working through input-output links, cost-push effect also operates at the factor level. If protection is provided to a wide range of industries, capital and labor will be absorbed by these sheltered industries and withheld from alternative fields of production. The export manufacturing industries will be the first to be adversely affected, for they use kinds of labor and financial sources similar to those used by import-substitution industries. In the initial stage of import substitution, the "resource-shift" and "cost-push" effects may not be felt. But after some progress in industrialization, when domestic markets are gradually filled and industries start to look for overseas markets, the high cost structure will clearly become an obstacle. The pressure of high costs tends to be particularly heavy if inflation prevails.

The period of protection is closely related to the degree of protection. It is justifiable to draw resources from other sectors of the economy to aid infant industries only if the protection is transitional; it is not justifiable if prolonged indefinitely. Persistent protection tends to perpetuate the use of more domestic resources per unit of dollar for saving foreign exchange than that for earning foreign exchange. This is wasteful resource allocation. Before protection is granted, therefore, it is advisable that a thorough study be made of present and prospective costs, prices, quality of products, markets, and management of the particular industry, its relation with other industries, as well as similar information on competing industries abroad. Such information is necessary to determine the height and duration of the tariff. A time schedule for reducing the tariff by stages should also be agreed upon with the industry, so as to force it to improve its efficiency gradually.

Fiscal and Monetary Measures

In most developing countries, specific fiscal and monetary measures have also been adopted for inducing industrialization. The most common are tax incentives and easy credit. Usually exemptions from import duties on machinery and raw materials used by

the industries, from a business tax, or from the corporate income tax, etc., are given for specific periods. Liberal depreciation allowances, carrying over into subsequent years in case of losses in the current year, are also generally offered. When there is credit control in developing countries, usually the monetary authorities permit, or even support, a more liberal extension of credit by commercial banks to import-substituting and export industries. Sometimes rediscount and refinance facilities at low interest rates are offered.

The effects of these measures have to be weighed against the effects of trade and exchange measures. For instance, the positive effects derived from tax and other incentives may be largely offset by the negative effects of an overvalued exchange rate. While these measures have not been dealt with in detail in this paper, their effects should be borne in mind. It is the "total effect" of all these protective and incentive measures in the fields of trade, exchange, credit, taxation, etc., which matters in considering the total level of protection.

[Excerpted from "National Policies for Import-Substitution and Export-Promotion," Planning the Export Sector: Techniques, Problems and Policies. New York: UN, 1967. UN Doc. No. ST/TAO/Ser.C/91, Sales No. 67.II.B.5.]

PROBLEMS OF IMPORT SUBSTITUTION: THE CHILEAN AUTOMOBILE INDUSTRY

Leland L. Johnson

[The Chilean automobile industry in the 1960s shows how import substitution can create more problems than it solves—especially when carried out too fast and without due consideration of economic realities. The experience is all too familiar in many other nations, too.]

Chile's experience in promoting a domestic automobile industry is an interesting case study of 1) the pitfalls of attempting to combine conflicting economic and political objectives in designing import substitution programs; 2) the role that foreign exchange control can play in maintaining a chronic misallocation of resources in the industry; and 3) the manner in which general price inflation can further contribute to poor industry performance.

In the early 1960s, the Chilean government decided to prohibit import of fully assembled passenger cars and allow only components in. Under a "national integration" program, assemblers were obliged to use increasingly large proportions of Chilean-made components as substitutes for imports—a minimum of 27 percent in 1964, 32 percent in 1965, and 45 percent in 1966.

Furthermore, for both political and economic reasons, automobile assemblers were induced to build in Arica, a Pacific coast city only a few miles south of the Peruvian border. Inhabitants of this relatively isolated area frequently charge that their interests are neglected by the central government, located 1,000 miles away in Santiago, and they have from time to time threatened to secede and join Peru. Since the

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decline of the once-thriving nitrate industry, northern Chile has been economically depressed and Arica had become a center of extremist political agitation.

By granting special tax benefits and permitting duty-free import of plant and equipment and automobile parts for companies willing to locate in Arica, the government attracted about 20 firms to the city. Each firm produced a handful of cars in 1963 and 1964 [see Table 1].

TABLE 1.

Automobile Assembly Plants in Arica

<u>Name of company</u>	<u>Make</u>	<u>Number of Units Produced</u>	
		<u>1963</u>	<u>1964</u>
Citroén Chilena S.A.	Citroén	1937	1533
Fiat Automóviles Arica S.A.	Fiat	1538	600
Equipos Mecánicos Salfa-Siam S.A.	Chevrolet	84	168
	Austin	267	332
	Morris	-	36
Sociedad Industrial Constructor Automóviles Ltda.	Peugeot	156	288
Importadora Fisk S.A.C.	Land Rover	144	78
Importadora Wal S.A.I.C.	General Motors	-	96
A. Avayu & Cia. S.A.I.C.	Chevrolet	412	412
	Opel	400	384
Nissán Motor (Chile) Ltda.	Datsun	-	577
Sociedad Importadora Willys Ltda.	Willys	24	6
Javier Echeverría A.	Triumph	23	-
	Standard	-	72
Industria Anglo Americanas Ltda.	Chevrolet	144	140
Socovem Ltda.	Simca 1300	263	229
H. Frederic Y Cia. Ltda.	NSU	338	387
Industria Studebaker Bolocco S.A.	Studebaker	432	48
	Hillman	-	204
	International	316	216
Industria Vehículos Tecna Ltda.	Chevrolet (Acadian)	200	-
	Vauxhall	172	216
Importación y Comercio S.A.	Skoda	24	60
Nun & German S.A.C. one plant S.A. Importsur	Simca 100	744	940
	Volvo	288	288
Sociedad Automotrices Unidas Ltda.	Renault	-	200
	Rambler	-	48
Ford Motor Company	Ford (pick-up trucks)	<u>274</u>	<u>-</u>
Total		8,180	7,558

Source: American Embassy, Santiago, Chile.

But assembly operations in Arica face a double handicap, because Chilean components have to be brought up from Santiago and assembled automobiles sent down again. Furthermore, Arica had little in the way of a skilled labor pool or other industrial infrastructure upon which the industry could draw.

Partly as a consequence of the government's failure to restrict entry to only a few firms, the industry suffers an enormous amount of overcapacity in plants. I estimate that three or four of Arica's largest plants, running on a one-shift basis, could take care of the total output of the existing plants.

The Problem of "National Integration"

Obtaining enough domestically produced components to comply with "national integration" requirements is enormously difficult. It is easy enough to start out with tires and batteries, because these are fairly simple in technology and lend themselves to reasonably small-scale production; but to go on to glass and small fittings is more troublesome, and to proceed to sheet-metal work further strains the capabilities of Chilean industry. Yet this is what is involved in making the jump to 45 percent Chilean-made parts in two years.

Poor workmanship. While visiting the Arica plants in mid-1965, I found many examples of this problem. One manager complained that he has had to rework every single car door delivered from Santiago. He has also had to make the front seat frames directly in the plant; he used to get them from Santiago, but "no two came out the same."

High costs. It is not unusual to get local cost quotations of four, eight, or even ten times the cost of the imported item. One official told me that he is still importing curved glass windshields because the differential cost factor was fourteen.

Delays. There was abundant evidence of delays resulting from the lack of parts ordered from Chilean sources. In one plant, about 20 bodies were hung up because they lacked fenders. In another, completed units had front ends drooping for lack of suspension parts.

Why should Chile have such difficulties? One obvious factor is the lack of adequate managerial talent, skilled labor, organization, and capital. Furthermore, the large number of automobile firms in Chile—each operating at high cost, low levels of production—means that components are ordered in such small quantities that suppliers are reluctant to invest in specialized equipment and training a labor

force to fill orders. In any event, the companies hesitate to commit themselves to orders for longer than a month or two ahead because the whole future of Arica is uncertain; in mid-1965, the government was negotiating with two large companies to establish assembly plants in the Santiago area.

The evolution of the Latin American Free Trade Association may mitigate these problems somewhat, but this is by no means certain. Under present government regulations, components imported from Argentina and Brazil count as national parts in fulfilling the integration requirements, but Chilean plants must export an equivalent value of auto parts to their suppliers as a straight barter deal. At present, Chilean plants have a comparative advantage in exporting only a few components.

Foreign Exchange Problems

One factor that contributes to the proliferation of small-scale plants is the difficulty of obtaining foreign exchange for imports of parts. The plant managers I have contacted complained that the total amount of foreign exchange allocated to the industry is low (relative to the demand for new automobiles) and that they never know more than a few months ahead of time how many dollars the Central Bank will let them have. They cannot plan carefully for one year's production, let alone the following years'.

This situation is disturbing. By rationing foreign exchange, the Central Bank is able to maintain an overvalued exchange rate for the escudo. Consequently, demand for foreign exchange far exceeds supply. A further peculiarity of the law requires that the Bank give foreign exchange to all or none of the applicants in a given category of importers (apparently in an effort to fend off charges of favoritism). It cannot accept the requests of some firms and reject others. The result is that relatively efficient producers cannot drive the less efficient out of the market. Since the rate of exchange is favorable, a company can remain in business profitably even if it is notoriously mismanaged. The demand for new cars pushes retail prices up, the overvalued exchange rate keeps import costs down, and a comfortable margin remains to be divided among the assembler, the parts suppliers, and retail dealer. Small wonder, then, that each assembler would like more dollars than he is getting!

Moreover, the uncertainty that each firm has with respect to the future foreign exchange supply, combined with its artificially low price, gives these firms an incentive to keep large inventories of imported items. They do this by repeatedly submitting inflated requests for foreign exchange. Some, of course, are rejected, but

over the long pull they have been able to get more than enough requests accepted by the Bank.

Why doesn't the Bank let the automobile and other industries bid for the available foreign exchange, thereby providing a freely fluctuating exchange rate? Apparently, the government fears that, if it did, the escudo costs of imported goods would rise, prices would rise, and the fight against inflation would be lost. But, to the extent that demand pressure causes prices to rise, the main result of the present policy may be to provide relatively large profits to a favored few.

Problems of Inflation and Monetary Policy

In Chile, the legal maximum nominal rate of interest on credit is about 18 percent, but in 1965 the cost of living index rose by about 25 percent and the wholesale price index by 40 percent. The real rate of interest is thus below zero. To the extent that firms obtain bank credit, therefore, they have little incentive to keep inventories low. Indeed, because cars rise in price along with other goods, investing in inventories is as good a hedge against inflation as anything. And, given the negative interest rates, the firm can make a little extra as well.

Of course, the demand for credit far exceeds the supply. All the industrialists I contacted in Chile complained that they are short of working capital. As a result, the Central Bank is under strong pressure from business interests, which are heavily represented on its Board of Directors, to continue an expansionary policy. The economy is geared to inflation, and a readjustment at this point would be terribly painful. Consumers would suddenly find themselves unable to pay off old installment credit contracts without the large annual pay raises that they are accustomed to. Some businesses, suddenly finding the real interest rate positive, might not survive.

The Seasonality of Production

Compounding all these problems is that of seasonality, largely the result of the laws regarding Chilean-made components. Under present regulations, an automobile is judged to meet the integration requirement of a given year only if it is completed within that year, and government inspectors visit each plant at year-end to certify which cars have been assembled.

It is in the interest of each firm to finish as many cars as possible before the end of December, since the larger integration

requirement of the following year imposes very high additional costs in terms of money and time and delayed assembly. Once the year is over, it takes months to build up enough new kinds of components to meet the new integration requirements. Many of the firms produce no cars at all in the first four or five months of the calendar year, and only reach their peak in December. Four of the eight firms I visited in early June 1965 were just getting ready to produce the 1965 model.

Aside from the employment problems created by constant hiring and firing—in an admittedly unstable political environment—the seasonal nature of the business contributes to large inventories. Finished cars are released only a few at a time in order to maintain a more or less constant level of monthly sales in Santiago and postpone as long as possible payment of customs duties on the imported parts. This inventory pattern ties up a substantial amount of foreign exchange and domestic value added. In June 1965, one plant still had about 500 completed cars, each retailing for about \$6,000, carried over from the 1,000 produced in 1964. A second had about a hundred cars, roughly 30 percent of its 1964 run. Moreover, the imported parts for 220 of the 400 units the plant was scheduled to complete in 1965 were on hand, awaiting the arrival of Chilean-made components.

Cost of Import Substitution

What are the costs to Chile of pursuing its program of import substitution in the automobile industry? It is impossible to treat this question definitively, because a detailed local cost breakdown is not available, and methodological problems arise in converting from local to foreign exchange costs. However, a range of possibilities can be derived from the figures in Table 2 for a relatively small, cheap car.

Since the wholesale price of a fully assembled compact imported into Chile would run about \$2,200, compared to the \$1,200 cost of imported parts, about \$1,000 of foreign exchange is directly saved by substituting domestic assembly and locally made components. We might consider that the cost to Chile in making this substitution is the 12,000 escudo residual figure shown in Table 2. Unfortunately, the relevant trade-off between escudo and dollar costs is not clear. Using the government-controlled futures rate of 3 escudos per dollar, the trade-off would be 4 to 1; that is, Chile would be using the equivalent of \$4,000 in local resources to save \$1,000 worth of foreign exchange. If we take the black market rate of roughly 5 escudos per dollar, the trade-off would drop to \$2.40 of local resources per dollar saved of foreign exchange.

TABLE 2.

Estimated Cost Breakdown for a Compact-size Automobile
of the Rambler-Chevy II Class, Early 1965

	<u>Escudos</u>	<u>Exchange Rate</u>	<u>Dollars</u>
Imported components ^a	3,600	3 to 1	1,200
Customs duties and taxes ^b	5,400	3 to 1	1,800
Domestically fabricated components and assembly costs ^c	12,000	{ residual dollar figure }	5,200
Retail markup	<u>7,000</u>		
Retail price ^d	28,000	3.4 to 1	8,200

a. Based on personal interviews, the dollar cost of imported parts including transportation is estimated at \$1,200 and is converted to *escudos* at 3:1—the "futures" exchange rate that covers most imports approved by Chile's Central Bank.

b. Customs duties and taxes are estimated at 150 percent of the value of imported parts and are converted at the 3:1 futures exchange rate.

c. The *escudo* retail markup is estimated at 25 percent of the retail price, leaving 12,000 *escudos* as a residual to cover domestic components and assembly costs.

d. The observed retail price of 28,000 *escudos* is converted to \$8,200, at the 3.4:1 "brokers" exchange rate, that is, the rate at which one would legally convert dollars to *escudos* in making the retail purchase.

It may be that the 12,000 *escudo* figure also includes some economic rent arising from extraordinary profit of assemblers, fabricators, and retailers. In that case, the real resource cost falls below 12,000 *escudos*, and the trade-off would appear less unfavorable.

On the other hand, the \$1,200 cost of imports includes only finished or semi-finished parts identifiable as automobile components. But the domestically fabricated components also have an import content—e.g., imported chemicals used for making plastics, imported metals that eventually end up in automobile uses, and imported tools and machinery used by domestic manufacturers of auto parts. To the extent that domestic components have a foreign exchange content, Chile saves less than the \$1,000 estimated above.

Chile's program of import substitution in the automobile industry is clearly expensive. It seems possible that \$2, \$3, or even \$4 of local resources are being consumed for each dollar of foreign exchange saved. If so, Chile would be far better off importing fully assembled cars, and perhaps levying a heavy import tax to maintain the retail price at present levels. While foreign exchange costs would rise, the value of alternative uses of domestic resources otherwise tied up in the automobile industry would more than compensate.

The arguments in defense of Chile's program of import substitution are familiar—but each can be answered. First, it is said that the value of the automobile industry to Chile is greater than implied above, because the cost figures do not take into account favorable externalities to the rest of the economy. That is, the industry is able to capture for itself only a portion of the benefits accruing from its role in training a labor force, identifying and providing experience for industrial managers, and coping with problems whose solutions have applications elsewhere. But it is not obvious that resources devoted to other uses would generate fewer external benefits than those arising out of a domestic automobile industry.

Second, while some disparity exists between social and private labor cost, we must be careful not to overestimate its importance in cutting the real costs of import substitution. Insofar as the labor employed in Arica would be unemployed in the absence of the industry, the social cost of labor would be close to zero (if it were not for the seasonal employment pattern). However, labor costs in the Santiago area, where components are made, cannot be considered near zero, because Santiago does not suffer from a serious unemployment problem. The industry also requires large skilled labor inputs and managerial resources, whose social costs are relatively high.

Third, it is said that the long-run learning effects will reduce Chile's comparative disadvantage in producing and assembling automobile parts. This is probably true. However, if Chile continues to require an ever larger percentage of local components, fabricators will face new difficulties working with the more advanced production techniques. To proceed to components requiring high levels of precision is quite beyond Chile's present capabilities. The resulting cost differentiation between domestic and foreign production could thus become even greater than it is today.

Chile is only one of a long line of countries that have promoted domestic automobile industries through the use of trade barriers. A basic lesson from its experience is that success or failure depends on how fast import substitution is pushed. The issue is not whether promotion of domestic assembly and domestic fabrication per se is a wise policy, but rather how fast the government should push the industry toward progressively higher levels of import substitution. The key problem is to tailor wisely the program to the peculiarities of the local environment.

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MONETARISTS, STRUCTURALISTS, AND IMPORT SUBSTITUTION

David Felix

[Policy implications emerge from an examination of the impasse to which Argentina and Chile have been led as a result of precocious widening of the industrial spectrum. Efforts must now be focused on industrial exporting, particularly of technologically less sophisticated goods, and on acceleration of agricultural development.]

The monetarist-structuralist debate is more than the Latin American version of the international dispute concerning the efficacy of monetary controls in stabilizing the price level. It also involves a deep disagreement over the ability of the price mechanism to produce a socially acceptable rate of growth and distribution of income in the Latin American context.

The practical focus of debate has been whether the package of policies—credit constraints, devaluation, elimination of exchange and price controls, and related measures—invoked in a number of Latin American countries to halt inflation would succeed, and, if so, whether success would be at the expense of economic growth. These programs have usually been undertaken under the aegis of the International Monetary Fund and supported by official U. S. lending agencies.

It is by now evident that the stabilization programs have been largely unsuccessful. In Argentina, for example, after nearly three years of exchange-rate stability and near price stability between January 1960 and March 1961, the dam broke, and by 1962 accelerating inflation and exchange depreciation were

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again under way. A similar denouement occurred in Chile. In neither country, moreover, was there a sustained rise in the growth rate during the stabilization period.

Events seem, then, to have given the debating cup to the structuralists. But was this because the stabilization programs miscalculated political limits or because they were economically mismanaged? It is the contention of this paper that the basic fault lay elsewhere, that the programs were simply not reallocating resources in the directions needed to create viable, growing economies. This seems to have been due to 1) excessive confidence in the efficacy of the price mechanism and 2) an underestimation of the adverse effect of Argentine and Chilean import-substituting pattern of industrialization on the structure of consumer demand and the capacity to import.

The failure of the stabilization programs to overcome the sluggishness of the postwar Argentine and Chilean economies strengthens the view that the major rigidities are deeper rooted than had been assumed by the monetarists, and were causes rather than results of inflation. Two causes are singled out by the structuralists as, in effect, primordial: 1) the slow growth of agricultural output, attributed primarily to institutional defects in agriculture, and 2) the limping capacity to import, the result of unfavorable trends in world primary products markets. Their analysis is by now a familiar feature of economic development literature in Latin America.

The Consequences of Precocious Industrialization

Has the sluggishness of agricultural supply and of the capacity to import been, in fact, grounded in institutional forces? In the case of Chilean agriculture, the evidence seems convincing enough. Neither the trend in relative prices, nor agricultural taxation, nor the evidence on agricultural profits suggest a situation which should have depressed a reasonably responsive, technologically alert agricultural sector. Argentine evidence is not as clear cut, but the sluggish supply response to the 50 percent rise in relative agricultural prices between 1950 and 1959 plausibly suggests institutional deficiencies.

The capacity to import, however, presents a more complex picture. Granted that world excess capacity in minerals, coupled with import restrictions by a number of leading industrial powers, have held down earnings from Chile's mineral exports and, similarly, Argentina's agricultural exports. Granted also that, in the circumstances, a lavish resort to devaluation or greater concessions to foreign investors might be only a beggar-my-neighbor policy which would evoke mutually damaging responses from other depressed primary exporters. What remains to be explained is why Argentina and

Chile, with their sizable industrial sectors, have been unable to become significant industrial exporters both prior to and during the stabilization efforts.

This calls for closer analysis of the import-substituting pattern. In form, this pattern recapitulates the conventional pattern of capitalist industrialization: The initial industries are generally consumer goods or building materials producers with a relatively simple technology and a low capital requirement per worker and per unit of output. They are then followed by consumer goods industries requiring a more sophisticated technology and larger capital outlay, shading subsequently into industries producing relatively complex consumer durables, steel, engineering, and chemical products.

However, Latin American countries have been forced to draw on a particularly inexperienced stock of human inputs, and have lagged badly in developing trade and technical schools to compensate. Deficiencies in entrepreneurship and capital accumulation have been partly overcome by establishment of foreign subsidiaries and government-financed industries; but the highly protected market environment thus created lessens pressure on industrial firms to increase productive efficiency. The consequence has been that, even with modern plants and low wages, domestic industries tend to have considerably higher unit costs than foreign equivalents.

The widening of the industrial spectrum has also taken place more rapidly than under the conventional pattern of capitalist industrialization. The pace has been more rapid the more sluggish the capacity to import, for then the saving of foreign exchange by encouraging import substitution has become high policy. This has also tended to give the industrialization pattern a bias toward producing middle class products, such as consumer durables, since it is the less essential imports which have been restricted most severely.

Two significant consequences have followed from this precocious widening of the industrial spectrum. First, it has meant production of technologically sophisticated products in which economy of scale factors are especially critical determinants of production costs. But the smaller markets and lower organizational competence in Latin America has meant batch production, lags in supply, larger inventories, and other cost-elevating deficiencies. Second, output curves have tended to be kinked, rising rapidly when imports are being replaced, but flattening when further growth of demand has been grounded in the growth of domestic income. Profits have also followed this pattern. Thus, industries have moved rapidly to "maturity," at which point they fall back to monopolistic quiescence with lower profit rates, reduced investment, and aging plant and equipment.

The inability of even the more industrialized Latin American countries to develop export markets follows from the general pattern described. The initial cost disadvantage stemming from lack of skills and deficient organization could, taken by itself, be overcome in time, particularly in less technologically sophisticated industries with relatively low capital-output ratios. The learning curve, plus a slower growth of real wages relative to foreign competitors, plus devaluation, might bring down costs in such industries to a profitable exporting level. However, even this possibility could well be thwarted by the effect on wages of relatively rising food prices.

But even if adverse industrial terms of trade do not completely thwart the narrowing of the cost gap, the added effect of the relative aging of the capital stock in industries with export potential may well do so. For one of the convincing generalizations emerging from contemporary analysis is the "Salter effect," which holds that productivity growth is positively correlated with the growth of output because this results in a stock of plant and equipment that is more au courant with the latest technological developments in the industry. This is due not merely to a more rapid addition of capacity, but also to a more rapid rate of replacement. The combined effect of an inadequate growth of food production and of the import-substitution pattern followed in Latin America, then, may create a continual state of dynamic cost disadvantage.

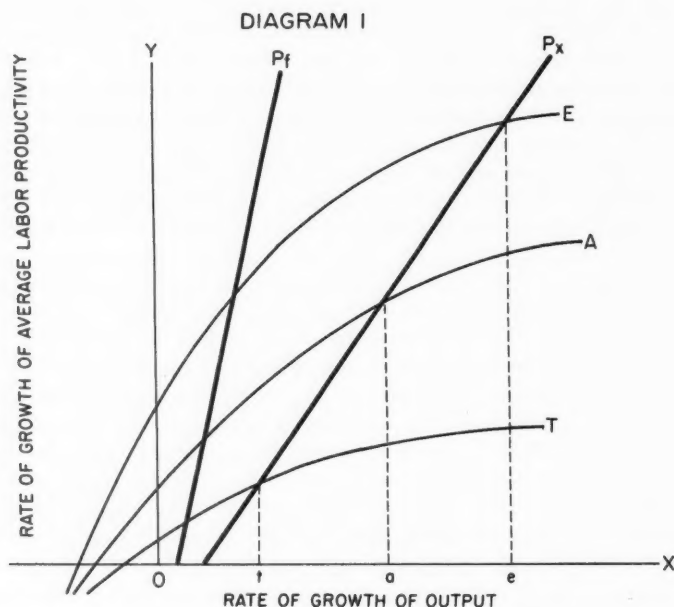
Industry Types

The choice of industries can critically affect a country's ability to become an industrial exporter, as will be shown after a necessary, if tedious, explication of Diagram 1.

The T (textiles?), A (automotive?), and E (electronic?) industries represent different portions, in terms of increasing technical sophistication, of the industrial gamut created by import substitution. The Pf-line, representing the annual rates of increase in labor productivity in the equivalent exporting foreign industries, is, for present purposes, exogenous.

The Px-line is the export-efficiency line. There will be a point on each industry curve representing the rate of increase in its output and productivity necessary to allow it to export. The Px-line connects such points. As drawn, no industry is initially capable of exporting—approximately the case in Latin America.

The curves in Diagram 1 are derived by combining four functional relations between an industry's output and productivity.



1. The first relation is the Salter effect, mentioned earlier. The faster the growth of output, the younger will be the age structure of the industry's plant and equipment and the larger the growth of average productivity of its capital and labor.

2. The curves array themselves approximately as indicated in the diagram because of the economy of scale effect. Latin American industries suffer in varying degrees from inadequate scale of output, and the more sophisticated an industrial complex the more it is likely to suffer. It should then follow that the industries which are further from optimum operations will have the higher rate of increase in productivity for a given increase in the output rate, because the economy of scale effect will be reinforcing the Salter effect the more strongly.

3. The learning effect—which says that productivity rises over time because experience increases labor and management skills—shifts the curves upward. The effect is likely to be greater for the more technologically sophisticated industries.

4. The extension of the curves to the left-hand quadrant of Diagram I indicates that productivity decreases as output falls below full capacity.

If Latin American countries can adapt imported technology to their lower wages and higher capital costs, they can lower costs and enhance industrial efficiency. More labor-intensive techniques would lessen the increase in output per head, but they would also lower the rate of increase in output required to attain export efficiency. The more sophisticated the imported technology, however, the less Latin American countries, with their limited engineering and managerial cadres, can effectively make such adaptations. The Px-line thus slants further to the right than the Pf-line; it is given the added tilt by the declining ability to substitute labor for capital as we move to the more sophisticated sections of the industrial spectrum.

We may now manipulate Diagram 1 to indicate a number of conclusions concerning import-substituting industrialization:

1. Despite higher rates of increase in output per head, the more sophisticated industries will require greater sustained rates of increase in output to reach export efficiency: $O_e > O_a > O_t$. Thus, interindustry differences in the levels and rates of growth of labor productivity are misleading indicators of comparative industrial efficiency.
2. The sooner it is desired, say for balance of payments reasons, to become an industrial exporter, the greater must be the rate of increase in industrial output. That is, if the time period is cut from " x " to " $x/2$ ", the Px-line shifts to the right.
3. Widening the difference between foreign and domestic industrial wages can reduce the needed rates of output growth—that is, it can shift the Px-line to the left. But even if wages are forced down, relatively rising food prices will shift consumer demand to A- and E-industries [see next section] and unemployment will reduce productivity. In terms of reaching export efficiency, the output and productivity gap can remain as wide as ever.
4. Devaluation as a means of promoting industrial exporting is also subject to at least two constraints germane to the model. First, if devaluation results in greater income inequality, the shift in consumer demand will be toward A- and E-type goods. This point is elaborated below. Second, the ability of devaluation to shift the Px-line leftward is limited by the dependence of the industrial sector on imported materials, fuels, and parts whose prices rise with devaluation.
5. There is no *a priori* reason for assuming that the extension of industrialization to intermediate and capital goods industries will improve the prospects for industrial exporting. It depends on which industries are established and whether the higher price of such goods

to industrial users is offset by more ready availability and, hence, lower inventory costs or machine "down time."

6. Economy of scale deficiencies are obviously less of a problem the larger the domestic market. Hence, the industry curve array should be narrower for Argentina than for Chile, and somewhat narrower for Brazil than for Argentina.

Why Stabilization Programs Failed

The indications are that economies which have pushed too far with import-substituting industrialization in the context of stagnating agriculture tend to box themselves in. This analysis needs to be tested more carefully, but the model provides a plausible set of reasons for the incontrovertible fact that neither Argentina nor Chile has been able to become a significant industrial exporter. It also helps explain why the International Monetary Fund stabilization programs failed to promote a breakthrough to industrial exporting. Basically, this was because the effect of the stabilization policies on the industrial sector was to shift an excessive proportion of resources to A- and E-type industries.

1. The reduction of real wages, and the wage share, improved the real income position of the non-wage households. As a result, a good share of the greater supply of foreign exchange made possible by stabilization credits was used to import equipment and supplies for new or expanded durable goods industries. The particularly high income elasticity of demand for such goods among non-wage households, combined with the fall in their relative prices to divert a major share of the increased non-wage income to industries producing A- and E-products and their components.

2. Most of the augmented inflow of foreign manufacturing investment during the stabilization periods also went into A- and E-type industries, partly due to the increased demand for such products and partly due to the "limited risk" type of investment attracted to Latin America. In limited-risk investment, the gains to the parent firms tend to come from the sale of goods and services to their subsidiaries at least as much as from the profits these subsidiaries earn. The flow of such investment tends, therefore, to be heavily influenced by the prospective availability of foreign exchange for importing and, to a lesser extent, for the transfer of profits and royalties. The greater availability of foreign exchange during the earlier phases of the stabilization effort, therefore, attracted investment which went into the partial domestic production of sophisticated products. The most notorious example was the Argentine automotive industry.

3. The policy of tighter credit also diverted private finance to A- and E-type firms. When credit is tight, the activities of firms with higher rates of profits are usually less affected, since they are better able to finance internally through retained earnings and also have superior credit ratings.

In sum, the cul-de-sac into which the industrial sector had worked itself prior to the stabilization efforts was made a bit roomier, but no breakthrough to exporting occurred. The stabilization policies, rather than directing resources to industries with export potential, merely continued the precocious widening of the industrial spectrum.

Policy Implications

If the analysis of this paper is broadly correct, Argentina and Chile have reached another major impasse in their frustrating climb to self-sustaining growth. In the 1930s, the decline of their export markets made clear that economic growth could no longer be supported mainly by a handful of primary exports. The remedy, import-substituting industrialization, has also proved inadequate. Continued agricultural backwardness, inadequate investment in public overhead capital, and precocious widening of the industrial spectrum have combined with a fall in external terms of trade to bring Argentina and Chile to their present impasse. How is this to be overcome?

In brief, Argentina and Chile must turn to industrial exporting. The viability of their economies requires this, for the growth of their traditional exports alone is unlikely to support their import needs at higher rates of economic growth. Acceleration of agricultural development by agricultural reforms and related measures and substantially increased public investment in education, transport, and power are needed not merely to increase agricultural exports but to cheapen industrial costs. The attempt to outflank technological backwardness by import-substituting industrialization without such ancillary measures has failed, although it has left a substantial heritage of industrial skills and experience that can now be turned to good effect. Furthermore, the emphasis must be on raising promising industries to long-run exporting efficiency, not on indiscriminately subsidizing industrial exports.

Taxation should be used to alter the structure of consumer demand, not merely to finance more public investment. The tax incidence must fall much more heavily on consumer durables and other sumptuary items of consumption, whether imported or domestically produced, with the object of curtailing new investment in such products. This requires heavy indirect taxes on A- and E-type consumables augmented by progressive taxation on personal income.

A larger share of industrial investment must be directed to T-type industries with good export potential. This implies cost and market studies to identify such industries and input-output studies to estimate the direct and indirect demand for foreign exchange of alternative industrial investments. Foreign technical assistance should be sought to assist in modernizing promising T-type industries. Exchange and capital issues controls, tax concessions, and public funds, as well as government investments in infrastructure and training, will have to be used to help channel industrial investment so as to maximize net foreign exchange availability and guide entrepreneurial perspectives outward rather than toward the domestic market.

Foreign manufacturing investment must be screened with the same criterion in mind. The authorities must not be seduced by the appearance of direct exchange-saving, or by the fact that the investment does not compete directly with existing industries. Such investments may have indirect defects in augmenting the demand for foreign exchange and stimulating low-priority complementary investment.

Vigorous efforts should be made to get the United States and Europe to open their markets to T-exports. It is disturbing that, while the industrially more advanced Latin American countries are pressing hard for the removal of import restrictions against primary products, they have shown less interest in measures which would promote industrial exports to hard-currency markets.

While it is true that world demand for T-industry products has generally risen less rapidly than for A- and E-industry products, it is also true that demand for T-industry products has expanded more rapidly in recent years than for primary products. Moreover, in more advanced economies, the rapid rise of A- and E-industries has been pulling up real wages and labor costs in T-industries, so that imports have been progressively supplementing and even replacing domestic production of many T-type items. Coupled with this is the growing middle-class taste for exotics, which also favors demand for technologically less sophisticated industrial imports.

[Condensed from "Monetarists, Structuralists, and Import-Substituting Industrialization: A Critical Appraisal," *Inflation and Growth in Latin America*. Werner Baer and Isaac Kerstenetzky, (eds.). Homewood (Ill.): Richard D. Irwin, Inc., 1964, pp. 370-401.]

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IMPORT SUBSTITUTION AND THE CENTRAL AMERICAN COMMON MARKET

Roger D. Hansen

[The attempt of several Central American nations to increase industrial production and exports individually, and simultaneously to resort to import substitution behind a common tariff wall, may be subject to the same dangers that exist for any one country starting on a program of import substitution.]

By making possible more efficient use of existing productive capacities, stimulating new investment in industries not viable in smaller markets, and generally providing the opportunity for increasing specialization and economies of scale, regional economic integration can play a significant role in allowing developing countries to alter the structure of their economies efficiently. But the real test of efficiency will be the ability of countries involved in the integration scheme to compete in the world market after structural changes have been effected behind a protective external tariff. The use of protection to encourage structural change through import substitution may, therefore, be misconceived.

The groundwork for a program of import substitution in Central America was laid by three measures: freeing regional trade to increase the size of the market; imposing a common external tariff barrier; and increasing the level of protection for consumer goods to encourage their production within the Common Market. The policy has contributed substantially to increased industrial production and has helped to accelerate growth rates over the past six years. What

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are the prospects that this policy of import substitution will continue to impel industrialization and growth?

There are several considerations involved. The first reflects the exhaustion of what is frequently called "easy import substitution." It is "easy" in the sense that it involves little new investment and little or nothing in the way of new techniques of production. Such substitution took place during the first few years of the integration scheme in two different ways: first, through meeting the increased demand for traditional Central American manufactured goods (e.g., processed foods, beverages, and tobacco; textiles, clothing, and footwear) by utilizing previously idle production capacity in those industries; second, through expanding the capacity of traditional industries. These sources of industrial and trade growth now appear to be reaching their natural limits. There is no longer much idle capacity in existing plants, and the possibilities for substituting additional lines of domestically produced goods for imports in the traditional categories of Central American industry have largely been exhausted. While none of this implies that the period of fast industrial growth must necessarily end, it does indicate that the process will become increasingly difficult with the passage of time.

The second consideration with regard to the policy of import substitution involves the make up of the new manufacturing activities. It is apparent that a great majority of the new plants in Central America handle only the final stage of consumer goods production, be it assembly, packaging, or bottling. The chemicals industry in Nicaragua exemplifies the process: what actually takes place in Nicaraguan plants is the final mixing and/or bottling of insecticides, cosmetics, soaps, and paints; all the prior stages of production have taken place outside the Common Market. The end result is that 86 percent of the raw materials used in the Nicaraguan chemical industry is imported, and 64 percent of the final market value of the products involved represents payments abroad for those imports. Foreign companies are often able to gain free access to the Common Market by locating these final assembly plants in Central America. Indigenous entrepreneurs have also been encouraged to invest in such assembly activities by laws which grant generous tax exemptions and other benefits for industrial investment in an often indiscriminating manner.

It is natural that assembly plants should be among the first types of new industry to appear in Central America. Comparatively speaking, they require far less in the way of fixed capital, advanced technology, and labor and management skills. Historically speaking, the assembly stage of production has often directly preceded the introduction of more complex manufacturing processes. Still, it should be pointed out that assembly plants entail several limitations. First, since the import component of their final product is so high,

they often contribute little in the way of value added in Central America. Second, they have come to involve a considerable loss of revenue to Central American governments. Third, and perhaps most important, they appear to have intensified Central American balance of payments difficulties.

Rigidity in the Import Structure

It is ironic that a policy of import substitution, adopted in order to free underdeveloped countries from chronic balance of payments difficulties, should exacerbate that very problem; yet this is very often the result. Industrialization patterns oriented exclusively to domestic markets can both hamper the development of new export industries and undermine traditional exports. Recent investment trends in Central America reveal a growing interest in producing for the expanded regional market. This pattern of investment involves the risk that Central America may, through an overconcentration on production for a protected domestic market, fail to develop its own natural resource base, which is agricultural in nature. Only by promoting industrialization geared to that resource base can the present development efforts strengthen the capacity of the region to compete in the world market, thus providing for durable economic development.

Some efforts are being made to expand production of what are as yet marginal foreign exchange earners. For example, credit is being made increasingly available for livestock production in several countries. In 1957, Central American meat product exports still earned less than \$1 million; by 1965, they were earning approximately \$25 million. Many observers fear, however, that the industrialization spurred by the creation of the Common Market is presently failing to utilize and expand Central America's natural resource base.

The way the present pattern of industrialization puts increasing pressure on the import capacities of Central American countries can be understood by analyzing the structural change in their imports brought about by import substitution. Prior to the recent emphasis on the substitution process, the Central American countries obtained most of their finished manufactured products from abroad. In the last few years, however, they have been importing relatively fewer finished goods and increasingly greater quantities of raw materials and semi-manufactured goods. The table below illustrates the changing structure of Central American imports. During the five-year period from 1960 to 1965 non-durable consumer goods imports rose by 49.4 percent. Over the same time period, the importation of raw materials and intermediate products for industry rose by 82.8

percent, reaching \$207.5 million and surpassing all other categories of imports as a percentage of total Central American import value. Imports of industrial machinery and equipment rose by 108 percent.

Changing Structure of Imports, 1960-65
(in millions of dollars)

Item	1960	1961	1962	1963	1964	1965 ^a
Total^b	\$515.8	\$498.2	\$553.6	\$649.3	\$759.3	\$886.2
Nondurable consumer goods	133.5	128.0	132.8	159.8	166.7	199.5
Durable consumer goods	54.0	50.1	52.3	69.4	79.7	94.8
Fuels	38.1	39.1	39.8	47.4	51.1	53.7
Raw materials and intermediate products for agriculture	33.2	34.9	36.6	45.8	58.6	68.2
Raw materials and intermediate products for industry	113.5	117.6	135.1	146.1	174.5	207.5
Construction materials	35.7	32.9	38.2	41.2	45.3	55.3
Agricultural machinery and equipment	15.0	15.2	19.4	23.0	25.5	33.6
Industrial machinery and equipment	60.4	56.1	72.1	82.9	107.8	126.0
Transport machinery and equipment	22.9	17.4	20.6	28.4	36.9	42.8

^a Provisional figures.

^b Includes imports of a small group of unspecified items.

Source: ECLA *Economic Survey of Latin America, 1965* (New York: United Nations, 1967), p. 171.

As a result, imports have become even more essential than they were before the import substitution process was accelerated. Formerly, a foreign exchange shortage could be overcome by limiting non-essential consumer goods imports. Increasingly, however, reductions in imports to meet balance of payments crises will entail limitations on external purchases of goods essential for the production process in Central America. The consequent harmful effects on economic activity in the area will include the slowing down of production and the laying off of workers.

Problems of this nature are just beginning to emerge in Central America. The timely adoption of proper policies to orient Central American industrialization toward development of the region's agricultural and forest resources can help those countries avoid the difficulties that now confront some of their southern neighbors. As the *Economic Bulletin for Latin America* (Vol. IX, No. 1) points out:

The way in which the import substitution and industrialization process has been carried out in a number of Latin American countries has aggravated the bottleneck represented by the lack of capacity to import and has intensified instead of mitigating the external vulnerability of the economies concerned, partly because the process in question has discriminated against exports, and partly because it has itself introduced a growing element of rigidity in the composition of imports, that is, has increased the difficulty of restricting their volume in emergencies.

The final—and most significant—consideration with regard to Central America's policies of import substitution involves both the initial levels of protection established and the tendency for those levels to escalate with the passage of time. The initial restructuring of individual country tariffs to establish the common external tariff resulted in increases in the levels of effective protection on an average of 40 percent. Furthermore, average rates of effective protection for those finished manufactured products with relatively low Central American value-added coefficients presently appear to exceed 150 percent.

In addition to the initially high level of protection, there exists in Central America the distinct possibility of a constant movement toward even higher rates. One reason for the emergence of such a pattern is the increasing utilization of the Special System for Industrial Promotion, under which tariffs may be raised more easily than in the past—without an automatic expiration date.

Recent events in Costa Rica point to another source of distortion. In an attempt to cope with a deteriorating balance of payments situation, Costa Rica announced in January 1967 that the Central Bank was suspending the sale of foreign exchange with which to purchase imports, except for items listed as essential by the government. Imports not on the official list are now being purchased with foreign currencies obtained on a free exchange market at a rate of about 7.5 colones per U.S. dollar, in contrast to the official rate of 6.65 per dollar. The introduction of multiple exchange rates will further distort the allocation of resources in Costa Rica if the relatively higher prices for non-essentials reflected in the free market exchange rate are allowed to attract otherwise unwarranted investment.

Given the high levels of effective protection initially established by the Common Market countries and the course of tariff bargaining since 1960, it seems clear that Central American emphasis on import substitution as an approach to economic growth is magnifying the difficulties which such a policy inherently entails. Generally speaking, the higher the levels of protection introduced, the greater are the possibilities that inefficient production will be encouraged. In turn, such production impedes the development of more efficient and productive activities, especially those which have to compete in the world market.

For example, during the past several years tariffs have been raised on barbed wire, insecticides, machetes, and other items used in agricultural production. Each of these tariffs increases the cost of agricultural and/or livestock production in Central America. If enough items are highly protected, the costs of agricultural production in Central America will rise to the point where it may become

difficult for those farm products to compete in the world market; certainly marginal production will be unfavorably affected. Thus, a policy of protection which encourages and allows inefficient production will necessarily make other activities inefficient by compelling them to use high-cost domestically produced inputs which may entail quality problems as well.

What is clearly needed in the Common Market today is a detailed study of the levels of effective protection already established, for the purpose of measuring and minimizing the distortions which are being introduced into the structures of the Central American economies. If the capacity to lower some tariff rates and to resist pressures to raise others—except in cases where further substitution provides either substantial saving in foreign exchange or an impetus to the long-term development of the area's natural resource base—is not developed within the Common Market institutions, Central America will eventually face all the difficult problems of structural readjustment plaguing many Latin American countries that relied too heavily on protection and import substitution to accelerate economic growth.

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